CALGARY'S HEALTH & WELLNESS MAGAZINE

MAY/JUNE 2004

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Small bug, big bite

West Nile virus patients warn that a mosquito's bite can trigger mind-numbing headaches, fever and sore joints

Attacking asthma

Learning to deal with a deadly condition that leaves millions drowning in air

Grad night

The pressures teens face and the choices they make

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Dealing with diabetes
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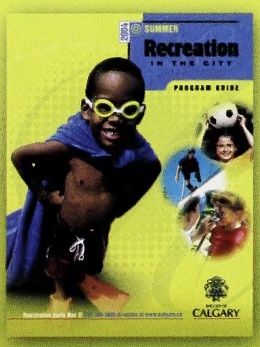
WNv patient Julie Schuh

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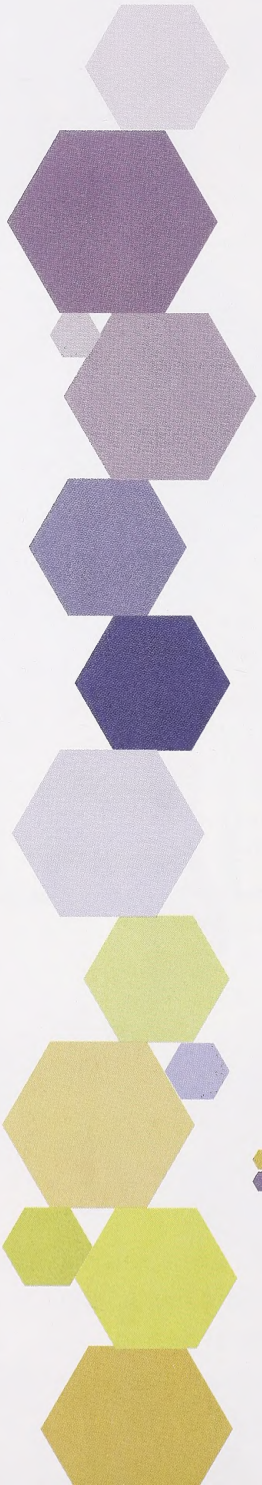
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CONTENTS

8
Small bug, big bite

Some Calgarians say West Nile virus is much worse than the mosquito's bite – and they want you to be warned

16
Attacking asthma

New research and treatments are helping asthmatics breathe easier than ever

20
Dealing with diabetes

Simple steps can help reduce the risk of developing one of the province's fastest growing diseases





Departments

Letter from the Calgary Health Region 7

Letters to the Editor 7

Seniors' Health 14
A Calgary program offers teens a chance to learn about life – from those who have lived it

Science and Research 24
Hans Vogel believes our bodies can help us fight off West Nile virus, SARS and cancer

Health and Culture 26
Grad night pressures can lead to risky decisions

Giving 29
The Belluscis believe in mixing a little philanthropy with their wine

Regional News 30
A new Calgary Health Region program offers hope for headache sufferers

Unsung Hero 32
Debbie Baylin's Art a la Carte serves up hope for long-term care patients

A Day in the Life 34
Nurses: Knowledge and commitment at work

Columns

Nutrition 36
Snacks to help you lose weight

Fitness 38
It's summertime and the walking is fine

Ask a Nurse 40
Breastfeed your baby while you work

Ask a Pharmacist 42
Learn how to deal with dry eye

Staying Healthy 44
New health information at the click of a mouse

Public Health 46
Sour gas wells: managing the risk



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A LETTER FROM
THE CALGARY HEALTH REGION
DR. JUDY MACDONALD



Why you need to protect yourself against West Nile virus

The days are warming up nicely now, and our thoughts naturally turn to summer – perhaps some gardening, maybe a little golf, a walk along the pathway. Outdoor soccer and the many variations on the theme of baseball are in full swing most evenings of the week. Those who live in the Calgary area know only too well how fleetingly short our summer season is, and we all want to make the most of it. So we head outdoors, sharing it with a wealth of other creatures that are also relishing the warmth and light – birds and bugs included.

And with the arrival of migratory birds, and the appearance of mosquitoes, we once again anticipate West Nile virus (WNv). 'Enough already!!' you're probably saying. 'We heard about that last year. What's new?' Well, what's new are the reports of Alberta's experience of West Nile last year. The arrival of this virus in Alberta in 2003 was unusual in that it appeared for the first time in all types of animals being monitored – first in birds in early July, followed by mosquitoes and horses later in July, and then finally in mid-August, the first human case was reported. The tally of WNv activity in Alberta for the 2003 season confirmed 275 human cases with 49 of these being the more serious West Nile neurological syndrome. In the Calgary Health Region, we reported 37 cases of WNv with nine neurological syndrome cases. That's the big picture – a fair number of cases, most occurring in the southern part of the province, but no deaths.

But on a more personal level, what was it like to actually have West Nile virus infection? Three individuals have shared their experience of this illness with us in the article by Rob Walker on page 8, and for two of them, it was not as mild and short-lived as public messages have indicated. While it is still true that the majority of persons bitten by infected mosquitoes will have no symptoms at all, these three individuals attest to the fact that those who get even the milder West Nile fever may have symptoms for months, and be faced with lack of understanding of the severity of their symptoms – by their friends, by their employers, even by their physicians. But this is the message that is unfolding – symptomatic WNv infection is not insignificant.

So what are we anticipating for this upcoming season? Some wildlife experts predict that the virus will be more widespread in our bird populations than last year. More infected birds means more mosquitoes will become infected when they feed on these birds. More infected mosquitoes potentially means more human cases. Some U.S. states have certainly seen this happen. Other experts look at the experience of Ontario, which saw less than 100 human cases in 2003 after experiencing more than 400 cases in their first season of 2002. We still can't explain exactly why there is variability in WNv activity in regions from year to year, but we can say that WNv is becoming established in the natural environment in North America.

It's impossible to predict how many human cases we will see in 2004. But we will see human cases – cases that can be prevented. What can you do to prevent WNv in yourself and your family members? Heed the messages about ways to avoid being bitten by mosquitoes on page 10 of Rob Walker's article, about ways to reduce mosquito breeding sites on your property – yes, even in the water in a saucer under that patio flowerpot. Anticipate that some municipalities may carry out mosquito control programs to reduce the number of mosquitoes that can carry the virus. But don't expect these programs to remove all mosquitoes – it's simply not possible. If you want to avoid WNv infection, you need to protect yourself from bites. Wear the gear – the insect repellent, the long sleeves and pants and hat – when you're outside when mosquitoes are biting.

Have a safe and healthy summer. Enjoy the outdoors. Stay bite-free.

Dr. Judy MacDonald is Deputy Medical Officer of Health for the Calgary Health Region.

Letters to the Editor:

Praise for Apple

I just discovered the Apple magazines for November/December and January/February and I wanted to let you people know how much I have enjoyed them. So much so, that I have picked up extra copies at our Hamptons Co-op store to pass on to friends and relatives. I found them very informative, easy to read and understand and very helpful. I hope that you will continue to provide these (magazines) as it is so important for young parents to know how to tackle the obesity problem in our young children; I am a child welfare social worker so I am in the schools a lot and I am aware of the growing concerns of obesity and diabetes, etc. in our young people. As my husband and I approach retirement, the information is helpful to us as well. Thank you so much for your help.

Carole Friese
Calgary

More on middle-aged moms

Thank you for your story entitled "Middle-aged moms" in the March/April 2004 edition of Apple magazine. The author provided some good information and anecdotal stories from women concerning bearing children at a later age. It may be of interest to you that two large-scale studies are currently underway in our region addressing just this issue. Dr. Suzanne Tough has been funded by the Alberta Heritage Foundation for Medical Research to tackle this issue. Dr. Tough is the Leader of the Decision Support Research Team in the Child and Women's Health Portfolio of the Calgary Health Region and is an Associate Professor with the Departments of Pediatrics and Community Health Sciences at the University of Calgary.

The main objectives of the studies are to determine the factors that influence childbearing among women and men in Alberta. Secondly, to better understand women and men's awareness of the possible risk factors associated with pregnancy at older ages. Finally, to determine what type of information women recall receiving from health care providers about conception planning. The first study included interviewing over 1,000 women who just gave birth to their first child. The second study included 1,000 women and 500 men who currently have no children. Participants were randomly selected from either Calgary or Edmonton – urban areas where delayed childbearing is more prominent.

As Ms Sharpe pointed out in her article, delaying childbearing increases risk for outcomes such as chromosomal abnormalities. Additional risks of prematurity and low birth weight also exist for older women in addition to medical complications during pregnancy. For example, during the year 2001 in the Calgary Health Region, 6.4 per cent of women 20 to 34 gave birth to a low birth weight infant (less than 2,500 grams) compared to 8.3 per cent of women over the age of 35. Preliminary analysis of our first study revealed that only 11 per cent of women knew that the risk of delivering a low birth weight infant increased with maternal age. Additionally, older women are increasingly using assisted reproductive techniques (ART), such as fertility medications or in-vitro fertilization. In our first study, eight per cent of women under 35 years used some form of ART, compared to 19.7 per cent of women over the age of 35. Use of ART carries an increased risk of a pregnancy resulting in a multiple birth. Multiple births are at greater risk for prematurity, LBW, and other medical complications.

Each man or woman's story on decisions to have children is unique and complex, but what remains constant is, as Ms. Sharpe pointed out, "the medical and social situations aren't in touch with each other."

Karen Tofflemire
Research Associate,
Calgary Health Region



Small bug, big bite

West Nile virus patients say a mosquito's bite can trigger mind-numbing headaches, fever and sore joints. They want you to be warned

BY ROB WALKER

Julie Schuh

When a mosquito bit Julie Schuh twice on the ankle last year, she thought little of it. After all, it was the beginning of a week's restful vacation with her two teenage daughters, Lindsay and Kelsey, at the Saskatchewan family ranch. The 45-year-old oilpatch accountant was focusing on reconnecting with the rest of the family after the long drive from her Calgary home that sunny August day. She wasn't too perturbed either when her ankle swelled. That was the predictable allergic reaction she always gets from mosquito bites.

The next day she felt ill. She put it down to the effects of the long drive the day before. Maybe she was coming down with the flu, she thought. The possibility of West Nile virus (WNv) didn't cross anyone's mind. The following day, Schuh woke up with a mind-numbing headache and a fever. She ached all over, took Tylenol, slept a lot and hoped the bad flu-like symptoms would pass. After four or five days, the symptoms of her mystery illness were still present. She now wanted desperately to be in her own home, an eight-hour drive away in Citadel in northwest Calgary. The drive back was a nightmare. "I just wanted to cry, my body hurt so bad," she recalls.

A walk-in clinic in Brentwood did some blood tests the next day that came back negative. Meanwhile, as Schuh developed an itchy measles-like rash all over her body, some of her friends were suggesting it could be WNv. The Brentwood clinic said nothing about WNv and Schuh thought, "No way" to any talk of the mosquito-borne virus. Prior to last summer there had never been a case of WNv in Alberta. Daughter Lindsay, 14, was bitten by a mosquito at the same time as her mother. Lindsay developed mild flu-like symptoms and had a mild rash, but nothing worse.

For Schuh though, the experience was harrowing. She was missing two or three days of work each week, sometimes going home at lunchtime with crippling headaches. She also had nausea, felt very weak and her legs shook. Several visits to Foothills Medical Centre (FMC) were no more enlightening, she said. Then, unexpectedly, the walk-in clinic called to say the blood work had been sent for further analysis. Diagnosis: West Nile virus.

Schuh's story – her inclination to overlook the possibility of WNv infection when she fell ill, the delay before the diagnosis and, most of all, the debilitating effects of the disease – is part of an emerging picture of WNv in Alberta. It's a picture that is providing public health officials with the information they need to gear up for what some believe will be an even tougher summer ahead.

Health officials have had a lot to learn. When WNv first arrived in eastern North America in 1999 – 62 years after the first cases of the disease were recorded in Africa – it was generally viewed as a significant health issue, but not an overly serious one. The disease is transmitted to humans by mosquitoes after they feed on the blood of infected birds. In Canada, WNv was first confirmed in birds in Ontario in 2001. The first human case of WNv was confirmed in that province in September 2002. Initially, public health officials in eastern Canada emphasized the long odds of contracting WNv, and explained that even those who did would likely suffer symptoms akin to the flu. And that is largely true. That view, however, began to evolve as WNv rolled west and north across the continent, infecting younger and healthier people and leaving many with severe symptoms – headaches and aching muscles – that lingered on, sometimes for months. Some even died. Today, health officials still emphasize the long odds of anyone developing a serious case of WNv, but they are also conscious of the severity and longer-term effects of the virus.

Schuh says her diagnosis came as both a shock and a relief. Finally she had a name for her debilitating illness, a label for her endless suffering. But she also had a new fear that she would develop the most serious form of the disease, known as



West Nile virus:

West Nile virus (WNv) is a mosquito-borne virus that can cause infection in humans and some other animals. First identified in Uganda in 1937, WNv has been found in Central Asia and the Middle East. In 1999, WNv came to North America, initially to the New York City area, and has spread from there. Humans become infected when bitten by a mosquito that has been feeding on a diseased bird. Not all of the 43 species of mosquito present in Alberta will feed on humans, and only a small number of those species actually carry the disease. WNv is not spread by direct person-to-person contact or from birds or other animals to people. WNv can also be transmitted through blood transfusions or organ transplants, but the risk is low.

Most people who become infected with WNv will have no symptoms at all and will not become ill. Symptoms, if seen, occur two to 15 days following the bite of an infected mosquito.

West Nile virus fever (mild)

Symptoms:
Headache
Myalgia (muscle aches)
Nausea, vomiting, anorexia (lack of appetite)
Skin rash
Swollen glands

Incubation period:
Two to 15 days

Duration of illness:
Three to six days, but may last longer

Recovery:
Usually complete

West Nile virus neurological syndrome (severe)

Symptoms:
High fever, severe headache
Marked muscle weakness, paralysis
Gastrointestinal symptoms
Confusion, coma
Convulsions, numbness and difficulty moving

Mortality:
10 per cent of hospitalized patients
Elderly more at risk
Recovery: weeks to months, may be permanent effects

Source: Calgary Health Region

WNv neurological syndrome. This form of the disease affects the brain, either in the form of encephalitis or meningitis, and can cause permanent neurological damage. Symptoms include high fever, headache and neck stiffness, stupor and disorientation, coma and tremors, occasional convulsions, or marked weakness and paralysis. This worry was ruled out at a subsequent visit to FMC's Emergency Department. There she was reassured that if WNv neurological syndrome were a possibility it would already have developed.

Either way, there is no specific treatment for any form of WNv. Serious cases are treated with supportive therapies to ease symptoms and prevent secondary infections. Schuh simply had to wait for the new mystery illness to pass. That took two months. It was October before Schuh started to feel normal again. She was left with the question which still cannot be answered: "Out of all the people out there, how did I get it?"

While doctors and public health officials do know WNv is carried by birds the problem of predicting its spread has proved challenging. Canada's leading WNv virus expert, Dr. Harvey Artsob of Health Canada in Winnipeg, sums up the predicament public health officials face: "This darn virus is so unpredictable. Every time we put out a theory, it shoots it down."

One thing officials with the Calgary Health Region and Alberta Health and Wellness knew for sure about WNv last year was that it would arrive. As a result, officials emphasized the need for individuals to take personal protective measures to reduce the risk of contracting the virus. In the event, there were 275 cases in Alberta last year – fortunately no deaths. This compared with no cases contracted in Alberta in 2002, (Last year, there were almost 800 cases including six deaths in Saskatchewan, where Schuh got sick.) Meanwhile in Ontario, where the disease first arrived in Canada in birds in 2001, the number of cases surprisingly dropped from 319 in 2002 to 89 last year.

Some believe the virus hits hardest in its first season in a region and then immunity starts to build and infected birds die off. They point to Illinois and Michigan as examples. In 2002 they had 884 and 614 cases respectively. Last year Illinois had two and Michigan had none. The worst hit region in Alberta last year was Palliser in the southeast, where there were 128 cases. Of the 37 cases seen in the Calgary Health Region, the age ranged from 20 to 71, with the average at 46 years.

As Dr. Judy MacDonald, Deputy Medical Officer of Health, Calgary Health Region, gears up for a new season of mosquitoes and WNv, she acknowledges that it is difficult to predict how the virus will affect Alberta this year. But she notes that a wet spring followed by a hot summer will provide the ideal conditions for the strains of mosquitoes, such as the *Culex tarsalis*, that spread the disease from birds to humans, making an increase in the number of cases this year a possibility. Also, as WNv sweeps further across Canada each year, public health officials are seeing the more serious version of the disease in a higher



Personal protection measures:

The best way to reduce risk of infection is to minimize contact with mosquitoes. Persons of all ages can take the following steps to reduce their risk of West Nile virus infection.

- Consider staying indoors at dawn, dusk and early evenings which are peak mosquito biting times.
- Wear light-coloured, long-sleeved shirts, long pants and a hat when outdoors.
- Apply insect repellent containing DEET or other approved ingredient sparingly to exposed skin or to clothing.
- Choose a repellent that provides appropriate protection for amount of time outdoors. Follow manufacturer's directions for use, as printed on product label.
- Repellents may irritate eyes and mouth, so avoid applying repellent to these areas or to hands or faces of children. Do not use repellents on wounds or irritated skin (rash or sunburn).

How to use DEET-based insect repellents:

- Children under six months – DO NOT USE DEET.
- Children six months to two years – use least concentrated product (10 per cent DEET or less) once a day when risk of complications from insect bites is high.
- Children two to 12 years – use least concentrated product (10 per cent DEET or less) up to three times daily as needed.
- 12 years to adult –use concentrations up to 30 per cent (if outside for more than four to six hours) and reapply as needed.
- Higher concentrations of DEET protect for longer periods of time.

Choosing a product:

If you plan to be outdoors for a short period of time, choose a product with a lower concentration of repellent and repeat application only if you need a longer protection time. Use only personal insect repellents that are registered in Canada. They have a registration number granted under the Pest Control Products Act.

Concentration of DEET	Protection time (approximate)
30%	6 hours
15%	5 hours
10%	3 hours
5%	2 hours

Reducing risk:

- Place mosquito netting over infant carriers when infants are outdoors.
- Install or repair window and door screens so that mosquitoes cannot get indoors.

Eliminating habitat:

Adult females of some mosquito species will lay their eggs in shallow pools of warm, sunlit standing water. Take steps to prevent this on your property;

- Regularly drain standing water from items like pool covers, saucers under flowerpots, recycle bins, garbage cans.
- Remove old unused items such as old tires that collect water.
- Change water in wading pools, birdbaths, pet bowls and livestock watering tanks twice a week.
- Cover rain barrel openings with screens.
- Clean out eaves troughs regularly to prevent pooling of water.
- For ornamental ponds, consider aeration or using fish that eat mosquito larvae.

"People think they are not going to get it, but when they do they'll wish they had taken more precautions. It's awful."

proportion of the population than first thought. An Ontario report last year showed in the summer of 2002 severe disease occurred in one in 84 cases of WNv in South Oakville. That's nearly double the rate experts were citing when talking about WNv.

Schuh says she decided to come forward with her story because she wants to increase awareness about WNv, potentially its severe effects and the need for individuals to take it seriously and embrace personal protection measures. "People think they are not going to get it, but when they do, they'll wish they had taken more precautions. It's awful."

That view is shared by Ben Urlwin, another Albertan who came down with a serious case of WNv last year. The 33-year-old consultant geologist who lives in Crescent Heights was bitten by a mosquito while attending a friend's barbecue in late August. "Like most people in Calgary, I knew pretty much nothing about the virus. To me, WNv was just this shadowy disease that other people caught," he said. "The potential of catching WNv hadn't even crossed my mind. So even though I knew I was getting bitten, it didn't particularly concern me," he said. "And anyway, it's just like a bad flu, isn't it?" he adds sarcastically, reflecting the widespread public misconception he shared at the time.

Like Schuh, Urlwin developed a very high fever. Two days later, headaches and vomiting started. "I had never experienced headaches like that, they were totally and utterly crippling. I couldn't eat anything, even water made me vomit. Any movement caused a flare-up of the headaches," he said. "It was like having two or more long, searing hot skewers forced slowly through my temples." He lost 20 pounds in the next few weeks.

Like Schuh, the first results Urlwin had were negative. But a few days later Urlwin, too, was told further tests showed he had WNv. As he'd recently been told by his doctor to go to FMC for a CAT scan for a suspected brain tumor, news it was WNv was a relief. "WNv definitely seemed like the lesser of two evils," he said.

Although his colleagues and employer were very supportive, public ignorance about the disease was reflected in one workplace reaction he faced. "It's amazing how far people can get away from you in an elevator. People would back up and ask if I was still contagious," Urlwin said. This reaction is not uncommon. Another unnamed victim told health officials: "My own encounters with my employer and health insurance carrier have left me disillusioned. In their opinion WNv is a two-week flu and has no long-term problems attached to it. I have faced ridicule and ignorance from co-workers and department heads."

Urlwin, who has had no symptoms of the disease since November, says it is important for people to recognize the seriousness of the disease and the importance of taking personal protective measures to reduce the risk of contracting the disease – a message strongly promoted by health officials.

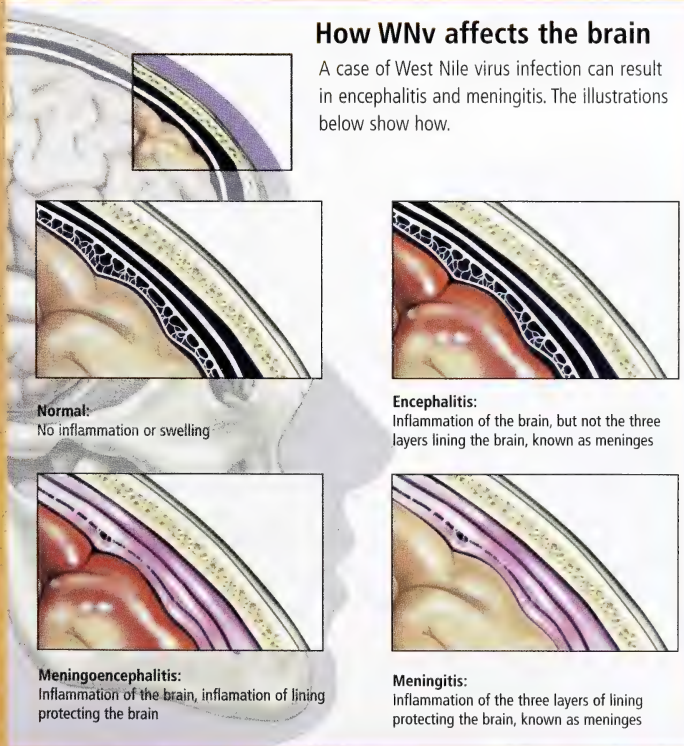
Schuh and Urlwin were fairly serious cases. However, the gradations of suffering are many. Daniela Mitchell, 35, was last year living in what turned out to be the high-risk area of Vulcan in southeast Alberta. She contracted WNv in mid-August.

The hospital nurse's symptoms were headache,

West Nile virus at work

How WNv affects the brain

A case of West Nile virus infection can result in encephalitis and meningitis. The illustrations below show how.



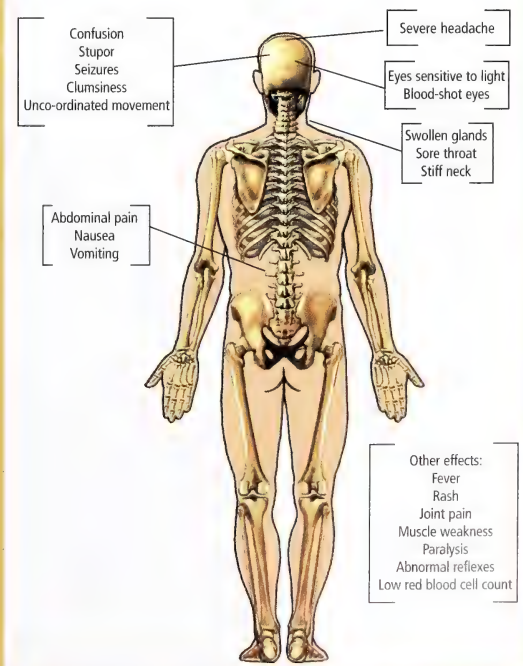
Normal:
No inflammation or swelling

Encephalitis:
Inflammation of the brain, but not the three layers lining the brain, known as meninges

Meningoencephalitis:
Inflammation of the brain, inflamation of lining protecting the brain

Meningitis:
Inflammation of the three layers of lining protecting the brain, known as meninges

How WNv affects the body





Ben Urlwin says WNv should be taken seriously.

"Out of all the people out there, how did I get it?"

swollen glands and a low-grade fever. Unlike Urlwin and Schuh, Mitchell right away suspected WNv. Even when her doctor dismissed the suggestion, and put her symptoms down to upper respiratory tract infection, she still believed her own intuition. And it proved right when the second sample of blood work came back positive a month after the initial symptoms. Mitchell, who now lives in Beaumont, just south of Edmonton, was off work for only a week, and felt normal after a month.

Dr. Paul Schnee, Medical Officer of Health for the Palliser Health Region in southeast Alberta, recognizes the problem patients face with having doctors and the public understand the disease. He faced the brunt of the surprise wave of WNv cases last year. At 130 cases per 100,000 people, it was a rate many times higher than in other parts of Alberta (Calgary's rate was 3.2 per 100,000). He held information sharing sessions for patients who were still suffering from some of the effects of WNv four months after their illness last summer. He concluded neither the medical profession nor the public were ready for the diagnosis or those side-effects and he encouraged doctors and the public to be more prepared in 2004. Doctors in particular must be more ready to test for WNv and to listen to their patients' stories. "Although there is no specific treatment, your patient will be relieved to know that these 'weird' symptoms are likely due to WNv, and are not 'all in the head,'" Schnee said.

The experiences of Schuh, Urlwin, Mitchell and the advice offered by Dr. Schnee are helping to shape the Calgary Health Region's approach to dealing with West Nile virus this summer. The potentially serious nature of WNv infection is underscored by Dr. MacDonald who says: "It is important to impress on people this can be a very serious illness. Therefore it is important they take whatever preventive measures they can." As a result of last year's experience, the public health message is being toughened up. Last year officials stressed that while WNv is in the environment, "most people are not going to get it." This year Dr. MacDonald's staff will be stressing that one in five who are infected may face a very serious illness, she says. That's something Julie Schuh and others already know. The Region's job will be to make sure others can learn from their experiences.

Rob Walker, owner of the Yoga Studio South, writes about health issues.

www.calgaryhealthregion.ca

The Alberta overview

Alberta accounted for 20 per cent of cases in Canada in 2003. Those 30 to 59 years of age accounted for more than 70 per cent of the cases. Palliser and Chinook Regions in southern Alberta had the highest rates.

WNv cases in 2003, by Region

Health Region	WNv No symptoms	WNv fever	WNv neurological syndrome
R1-Chinook		30	7
R2-Palliser	2	110	19
R3-Calgary	1	27	9
R4-David Thompson		21	6
R5-East Central		16	2
R6-Capital		17	4
R7-Aspen			2
R8-Peace Country			
R9-Northern Lights		2	
Provincial total	**3**	**223**	**49**



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Stats provided by Canadian Hearing Society, April 2004

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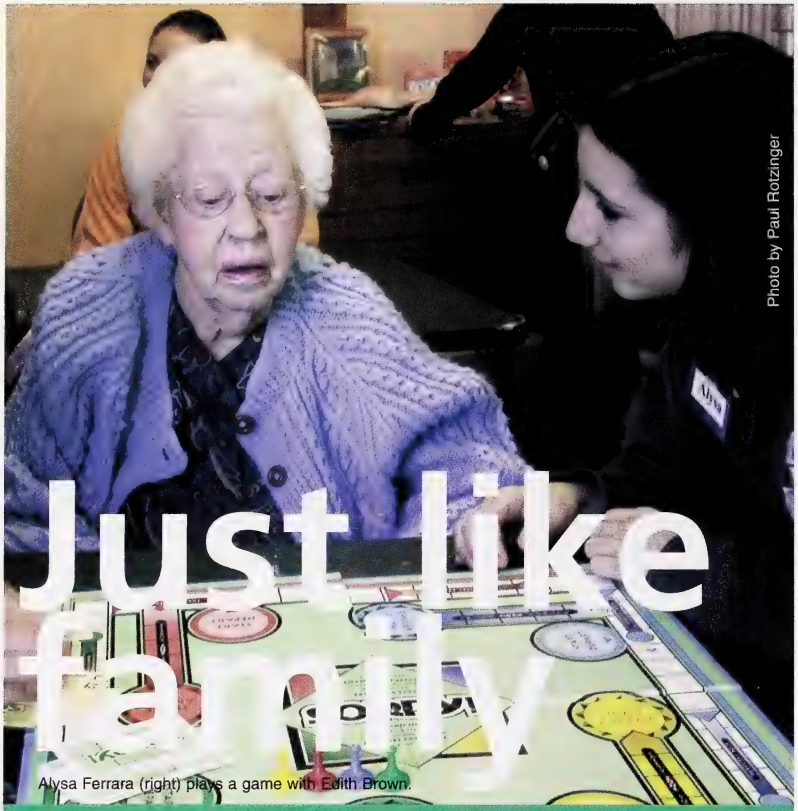


Photo by Paul Rotzinger

Alysa Ferrara (right) plays a game with Edith Brown.

Just like family

Calgary teens offered a chance to learn about life – from those who have lived it

BY LYNNE KOZIEY

Twice a month the three friends get together to chat, play games, do crafts and nibble on cookies. They talk about life and love, experiences they've had and their families, each learning from the other. The friendship may only be a couple of years old but it's rich with meaning – and may be just what the doctor ordered.

This is not your typical friendship, but that's what makes it so special. A lifetime of wisdom and experience is passed onto the two teens, who listen intently to stories shared by their 92-year-old companion. The trio is part of the Friends of Seniors Foundation, a non-profit organization that matches teen volunteers with seniors living in care centres. The foundation first opened its doors in 1994 and since then has fostered more than 2,000 relationships between teens and seniors. In May, it will celebrate its 10th anniversary. This year alone, 400 teen and senior volunteers are involved in the supportive visiting program, which operates in 11 Calgary schools and care centres.

On this day, 14-year-olds Jacqueline Plishka and Alysa Ferrara meet with Edith Brown, a long-term care resident of Carewest George Boyack. Sun streams through the windows and lively chatter fills the air as 10 pairs of teens sit with their senior companions. The students, from St. Martha's Junior High School, spend their lunch hour twice a month interacting with the seniors.

Brenda Wood, Friends of Seniors founder and Executive Director, said the friendships develop a new sense of purpose and worth for the seniors as they share their experiences with the youth volunteers. But beyond that lies an equally important by-product of the twice-monthly visits – improved health.

Experts working with seniors have found the effects of social relationships may be as important to health as established risk factors such as smoking, physical activity, obesity and high blood pressure. Candace Konnert, a University of Calgary psychology professor who recently co-wrote a three-year study focusing on depression among older nursing home residents, agrees. "There's actually a fair bit of evidence to suggest that support is important for mediating the effects of stress and promoting social and psychological well-being and decreasing depression among seniors. That's well established," Konnert said.

"I think for most older people, there are tremendous benefits. Because we're social beings, it gives them a feeling of personal meaning. I think the students also benefit a lot. There is a lot of emerging literature that kids have negative stereotypes about what it means to grow old and what it means to go into a nursing home. One-on-one contact really helps to negate those stereotypes."

Brown, Plishka and Ferrara don't spend much time contemplating the health and social benefits they're receiving when they sit down for a game of cards. They simply enjoy each other's company. "It's nice to have them come and visit," said Brown, a retired nurse with sparkling blue eyes and hair like white satin. "It's an occasion to get together and that means a lot, doesn't it? After they come, I feel more at home again. I've known these girls for a long time, even when they were much younger. I'm very fond of people and after two years, they're like family."

For Plishka, a Grade 9 student, the visits are an opportunity to make a difference in Brown's life – as well as her own. "She's taught us a lot about her perceptions of life and that you have to keep caring about people. She's done a lot of caring about people herself and she always shares her stories," said Plishka. "I've really just enjoyed visiting her."

Ferrara, Plishka's classmate, was prompted to reach out to the older generation by getting involved with the Friends of Seniors program after her grandmother died. "I wanted to get to know another senior better. People always say they need to be taken care of or they're this or that, but they're just like normal people. Edith is fun to hang out with and I love her smile."

Lynne Koziey is Communications Co-ordinator for Carewest.

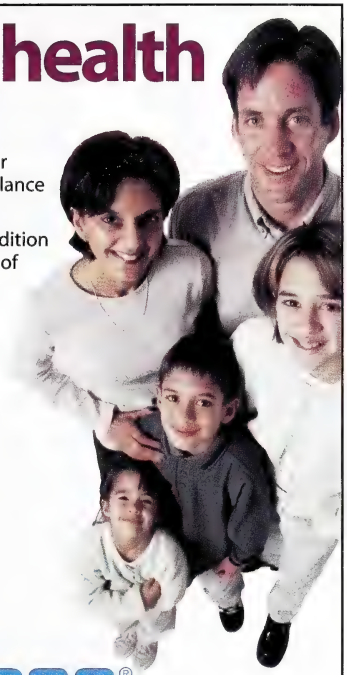
www.friendsofseniors.org

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Attacking asthma



Marion Uniat has learned to control her asthma.

A Calgary woman explains how she manages a deadly condition that has left millions of Canadians drowning in air

BY MARK REID

Marion Uniat was five when she came down with a cold that just wouldn't quit.

Long after the sniffles should have stopped, she was still wheezing. Her chest felt constricted, like a great weight was bearing down on her young lungs. "It's like you are drowning, but you can't get out of the water, because there's no shore," Uniat said softly. "You're drowning in air – your lungs can't get the oxygen they need."

When it comes to asthma, much has changed in recent decades in terms of our knowledge of the disease and the way we treat it. And while it has taken somewhat of a backseat to other, high-

"If you want to know what it is like, take a very narrow straw and breathe in and out. Now plug your nose – that's what it's like."

er-profile diseases, such as cancer and HIV/AIDS, asthma still afflicts more than three million Canadians – and kills more than 500 people each year. It strikes most often among those most unable to cope – children – and costs the Canadian health care system more than $1 billion annually in terms of ongoing treatment and emergency care costs. In fact, according to the Calgary Health Region, asthma is the leading cause of hospitalization of children. What's worse, asthma cases have been rising steadily since the 1970s, both among children and adults.

Still, there is reason for optimism. Research, both around the world and right here in Calgary, is inching towards new and better treatments and deeper understanding of the multitude of factors that trigger asthma attacks. With caution and the proper drug therapies, people with asthma are enjoying higher qualities of life, and breathing easier, than ever before. "Knowledge is power," Uniat said. "If you have the knowledge and you use it appropriately, then asthma doesn't have to control you. You can adapt your lifestyle, and decide it's not going to stop you."

On a recent overcast day, Marion Uniat sat in her modest office at a Calgary Co-op, surrounded by reminders of her disease. On the wall is a poster of a pair of lungs. Cross sections of the life-giving organs show examples of inflammation of the airways – a telltale signature of asthma. Sitting nearby on a desk is a model of two bronchioles, one pink and healthy, the other clogged with inflammation of the smooth muscle lining.

Uniat, the former president of the Calgary Asthma Awareness Society, is an asthma educator with the Calgary Co-op's citywide asthma education program.

A pharmacist by trade, Uniat approaches asthma from professional, personal, and emotional points of view. As an asthmatic, she has had to learn to control her disease, managing attacks with a combination of drug inhalants and common sense. As the mother of a now 18-year-old son with asthma, she has also spent long nights holding her son's hand, helping him fight for his next breath. "I was really hoping I wouldn't pass those darn genes along," Uniat says with a sigh. "But by having a child with asthma, I have a lot more empathy with parents of children with asthma. "Asthma is a really exhausting disease. The typical flare-ups happen between midnight and four in the morning. With your child up all night coughing, it can be exhausting."

Uniat is not alone. A recent report by the World Health Organization and the Global Initiative for Asthma revealed a shocking increase in the number of asthma cases world-wide. The report pegged the number of global cases at 300 million and predicted that number would soar to more than 400 million in a mere 20 years. According to the Alberta Lung Association, asthma is the most common chronic respiratory disease of children, occurring in upwards of 10 per cent of all kids, and accounting for one quarter of all school absenteeism.

As for the root cause, or causes of the disease, asthma remains a mystery. It is believed, however, that rising rates of asthma are related to our changing environment.

There are two main schools of thought, says David Proud, the Canada Research Chair in Inflammatory Airway Disease at the University of Calgary's Faculty of Medicine. One theory argues that asthma rates are related to changes in hygiene. The argument goes that, thanks to vaccinations and the fact that we do not live in close proximity to unhygenic animals as we did in our rural past, children today do not get as many viral and bacterial infections. These changes work to hamper the development of their immune systems, making them less capable of withstanding the triggers and irritants that spark inflammation of the airways.

Other theorists note that incidences of the disease are higher in the developed world, leading some to blame increased levels of air pollution, or our increasing tendency for an indoor, hermetically sealed lifestyle for rising asthma rates. The majority of people with asthma have only mild to moderate symptoms. Acute cases are rare, but deaths do occur, and anyone with asthma can have their quality of life greatly impacted by the disease.

Picture the human respiratory system as a tree, with the windpipe as the trunk. The branches of the tree consist of large airways, called bronchi, which lead to the leaves, or alveoli in the lungs. Between the trunk and these alveoli "leaves" are multitudes of "twigs," called bronchioles. It's within these "twigs," in the smooth muscle, that asthma strikes. When inflamed, the bronchioles become swollen and clogged with mucous. The muscles winding around the airways also twitch and constrict, further impeding breathing.

A typical asthma attack is brought on by something as innocuous as the common cold, but there are a host of possible other triggers, such as other viral infections and triggers of allergic reactions, such as cat dander, moulds and dust mites. When suffering an attack, people with asthma are able to breathe in, but find it difficult to breathe out.

"If you want to know what it is like," Uniat says, "take a very narrow straw and breathe in and out. Now plug your nose – that's what it's like.

Asthma can be controlled through education and a growing panoply of drugs, but as of yet, there is no cure. The drugs fall into two categories: controllers, which reduce inflammation in the airways and are generally taken on an ongoing, daily basis; and relievers, which ease or stop immediate symptoms, such as coughing and difficulty breathing, but do not relieve the underlying problem of inflammation. Corticosteroids are among the most widely used controller drugs, while tools such as Ventolin inhalers are commonly used for immediate relief.

As a staff physician in the Emergency Department at the Alberta Children's Hospital, Dr. David Johnson and other frontline health professionals are there to help prevent serious asthma attacks from ending in tragedy. "We spend more money taking care of children with asthma than any other illness," says Dr. Johnson, who is also the Chair of the Child Health Research Group at the U of C's Faculty of Medicine. "It's a huge issue in health care right now."

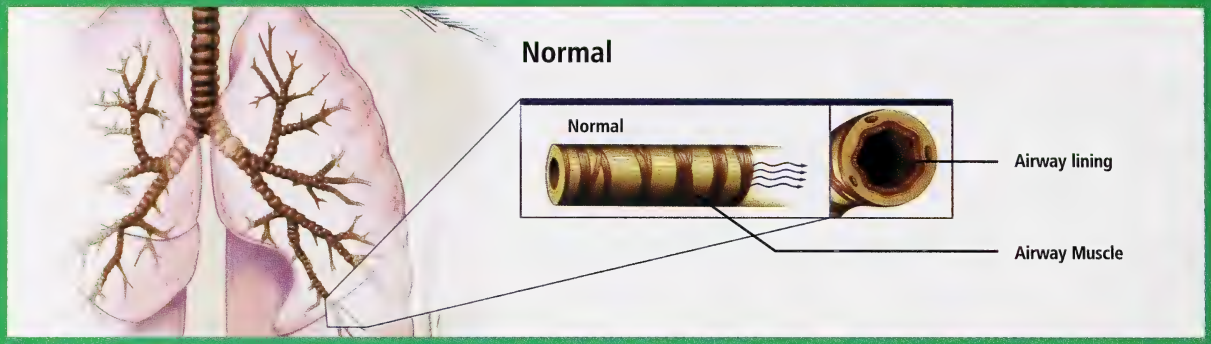
Recent Calgary Health Region statistics reveal the extent of the toll asthma takes on the Calgary community. Between 1996 and 2000, asthma

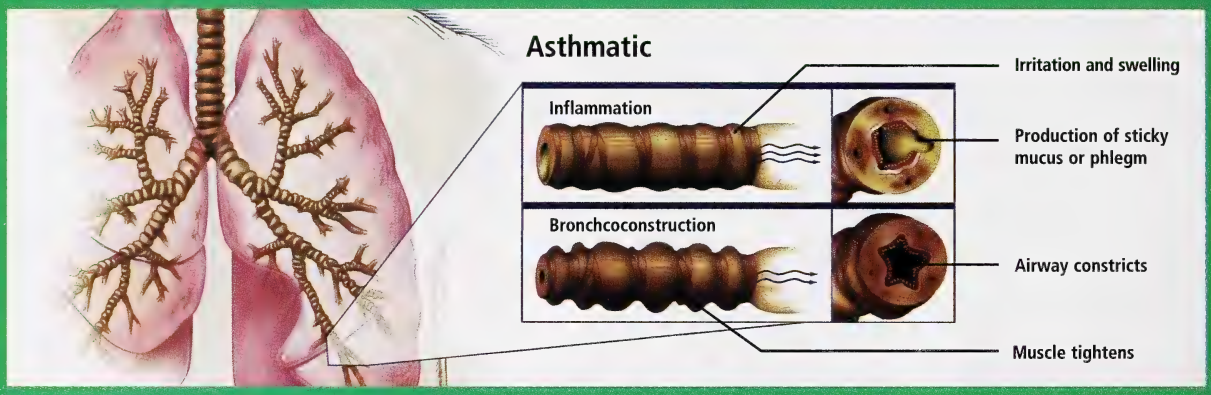


Marion Uniat offers advice to asthmatics.

Asthma attacks

Asthma attacks can be triggered by a common cold, viral infection or allergic reactions to cat dander, moulds and dust mites. Here's what happens during an attack:





Illusustration courtesy of GlaxoSmithKline

Managing asthma

Patient Education

Patient education is an important area where asthma treatment can be improved. Asthma is common and controllable. Asthma is a disease that is variable, meaning that symptoms may get worse and may improve over time. Because of this variability it is often necessary to review and change the treatment. In order to enhance the patient-physician relationship, the patient must be familiar with the following:

- Nature of the disease; identifying provoking factors
- Nature of medications and side effects
- Proper technique of using devices
- Goals of treatment
- Early recognition of worsening control
- Written Action Plan
- Asthma Diary Form

A patient with this type of knowledge can communicate to the physician in order to work out an appropriate treatment plan. The goals of treatment should be understood and agreed upon by both the physician and the patient.

Environmental Control

Environmental control should always be initiated along with taking the appropriate medications. If exposure to inducers are avoided, less medication is required.

It is not always easy to identify what inducer is making the asthma worse. It often means reviewing the history of symptoms carefully i.e. keeping track of the symptoms.

Controlling the inside and outside environment at home and in school, should be considered for those people who have identified allergies. For example:

- House dust mites Dust mites are small parasites that live off the dead skin that we shed. Decrease exposure by enclosing mattress and box spring in plastic and washing all bed sheets and blankets in hot water once a week.
- Pets If allergic to pets, animals should not be allowed in the house; this can include animals such as dogs, cats, gerbils and birds. People with identified animal allergies should not care for the pet.
- Smoke: No smoking in the home should be allowed at any time.
- Mould. Remove mould wherever and whenever it is found. Bleach can be used for this. The source of mould should be eliminated.
- High humidity Increased moisture in the home can encourage mold growth and house dust mites, which require greater than 50% humidity to survive. Humidifiers, if not cleaned properly, can grow bacteria and produce a residue which some people find irritating to their lungs.
- Pollens It may be necessary to avoid playing outside during times of high pollen counts. Pollen counts are usually greater in hot, dry and/or windy weather and usually between 4-10 AM. Camping and raking leaves will expose the person to pollens.

Source: The Lung Association

"If you have the knowledge and you use it appropriately, then asthma doesn't have to control you."

accounted for 24 per cent of all emergency admissions to hospital for children under the age of six.

Dr. Johnson says there are many reasons why children with asthma end up hospitalized. "It's impossible to answer your question with certainty," he says. In some cases, it's because the children are in repeated contact with asthma triggers (such as cigarette fumes from parents who smoke). Some children simply have more severe cases of asthma that can't be as easily controlled with drugs. And for some children, it is simply a case of not following drug therapies closely enough.

Dr. Johnson says it is crucial for all asthma patients to be proactive in controlling their disease by carefully following prescribed treatments and staying away from asthma triggers. "Asthma, if not properly treated, can affect your quality of life and puts significant stress on families," says Dr. Johnson, who was diagnosed with asthma himself while in his late 30s. Thankfully, he adds, things are steadily, if slowly, improving for people with asthma. "Even within the last decade, we have gotten a much better handle on how to treat patients with asthma, especially those with acute symptoms," Dr. Johnson says. "We are gradually sorting out the best ways to treat children with different severities, giving them just the right amount of medicine to minimize the risk of admission to hospital and improve their quality of life. We have a much better handle on the disease."

Although asthma is one of the most prevalent diseases in Canada, funding for research has not kept up with its skyrocketing growth. Indeed, experts say many people incorrectly believe asthma isn't a disease to be concerned about because of the drugs available for treatment. "Asthma remains the most common form of chronic respiratory illness in Canada, but many people think asthma is under control," says Tracy Bertsch, director of the Alberta Lung Association. "Asthma is still the leading reason to be hospitalized in Alberta."

The Alberta Lung Foundation supports asthma research in this province, promotes awareness of the disease, and also offers support and advice for those with asthma. Bertsch says the combination of research and education is the key to solving the enigma of asthma. However, she adds "while we have to invest in the future, which is research, we also have to invest in the now, which is professional development for our health professionals, and promotion of awareness of asthma. "At the end of the day, we're all working hard, for what I believe is an achievable goal – a cure for asthma."

Uniat, in her role as asthma educator, teaches people with asthma how to regain control over their disease (for instance, she suggests patients keep asthma "diaries" in order to learn which triggers spark attacks). And while Uniat would love to see a cure some day for asthma, she has a somewhat more realistic goal in the short term – to help spread the word about the disease, empowering people with asthma with the knowledge they need to manage their disease and reclaim control over their lives.

"For the most part, I control my asthma, and I can do anything I want. I go hiking, I go mountain climbing, I go backpacking, there's little I can't do," Uniat says. "My light at the end of the tunnel is to have widespread information out to the public in terms of how they too can control their asthma. That's my goal."

Mark Reid is editor of On Campus Weekly *at the University of Calgary.*

Resources

Calgary Asthma Program (CAP)
Programs at Foothills, Peter Lougheed and Rockyview Hospitals
(403) 220-8742

Calgary Co-Op Asthma Education Program
(403) 299-4940

Alberta Asthma Centre (Edmonton)
(780) 407-3178

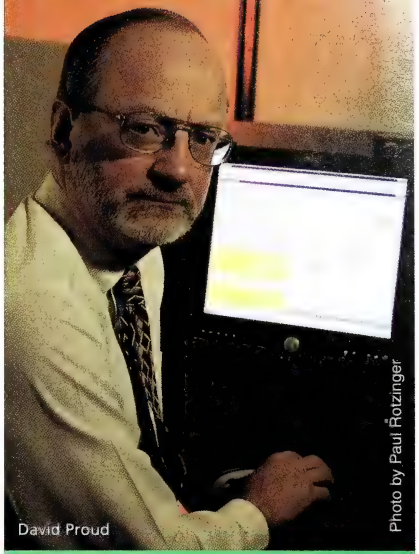
Alberta Children's Hospital, Asthma Clinic
(403) 229-7328 (By Physician Referral)

Alberta Lung Association
Health Education Line 1-800-661-5864

Asthma Society of Canada
1-800-787-3880

The Lung Association
(613) 569-6411

Calgary Allergy Network
(403) 257-3173
calghelp@aaia.ca



U of C researcher seeks to unlock mystery of asthma

Could the common cold hold the key to solving the mystery of asthma attacks?

That's what David Proud aims to find out. A Canada Research Chair in Inflammatory Airway Disease and Department Head of Physiology and Biophysics at the U of C's Faculty of Medicine, Proud is leading a growing team of researchers in search of new treatments for asthma, a disease that causes inflammation in the lungs and afflicts tens of thousands of Canadians, young and old.

One of the most common triggers of asthma attacks is the common cold. It, and other viral infections, can spark inflammation of the airways, leading to attacks. Proud's research centres on finding the molecular switches that trigger asthma attacks. He hopes to someday develop drug therapies that neuter the cold virus, preventing it from prompting asthma attacks. "We're trying to find out what bits of virus might be triggering (asthma) responses and target them specifically," Proud says.

As part of his research, Proud is investigating the benefits of using nitric oxide (a gas that is naturally produced by our bodies when we breathe) to prevent asthma attacks.

Proud has discovered that nitric oxide stops the common cold virus from growing and has found correlations between the amount of nitric oxide we produce and how quickly we clear the cold virus – the higher the nitric oxide level, the quicker the virus is cleared. "I'm interested in the idea of using compounds that release nitric oxide as a way to treat (asthma patients) via a topical delivery that helps beat down the virus in the airways, giving the immune systems of asthma patients a chance to kick in and fight the virus," he says.

Proud, who was recruited from Johns Hopkins University in Baltimore, Maryland, is now building a multidisciplinary team at the U of C to conduct research into asthma.

- Mark Reid



Photo by Paul Rotzinger

Dealing with diabetes

Gerald Colabrock

A few simple lifestyle changes can help you reduce the risk of developing one of the province's fastest growing diseases

BY DEREK SANKEY

Gerald Colebrook readily admits he should have seen it coming.

Approaching his 40th birthday, the native Calgarian was a little on the heavy side, had a penchant for junk food and preferred riding the couch to the exercise bike. That alone made him a risk for Type 2 diabetes. The fact that his parents had the disease only increased the likelihood he would develop the same condition.

Yet, like many others in his situation, Colebrook ignored the warning signs, clinging to the hope that if he just went about his business, everything would turn out okay. "I had the typical male mentality that if I don't know I've got it, I don't have to do anything different," he says.

"Our dog gets a lot of walks now because I want to be active with my younger son as I have been with my older one."

Colebrook says that was a mistake. Not long after, he was diagnosed with the chronic illness – joining more than two million Canadians who are living with the disease, including 105,000 in Alberta. More than 60,000 Canadians will develop diabetes this year alone.

While Colebrook had some knowledge of diabetes because it was in his family, many Albertans are unaware of the disease or the fact that it has become one of the province's fastest growing health problems. Diabetes strikes an estimated 12,000 Albertans per year and is one of the top seven leading causes of death due to disease, according to the Canadian Diabetes Association. Type 1 diabetes develops when the pancreas produces little or no insulin. Individuals who develop Type 2 diabetes continue to produce insulin, but cannot use it well. An estimated 90 per cent of all new cases of diabetes are Type 2.

The impact of the disease is equally profound. It is the leading cause of adult blindness and can cause many other problems and complications if left untreated such as amputation, kidney disease, heart disease and stroke. In addition to the human toll, diabetes is also putting economic



Roslyn Cummings talks to a patient. Photo by Paul Rotzinger

What are the risks?

Risk factors for developing diabetes include:

- Being age 40 or over
- Being overweight
- Being a member of a high-risk group (Aboriginal peoples, Hispanic, Asian or African descent)
- Having a parent, brother or sister with diabetes
- Having high cholesterol or other fats in the blood
- Having high blood pressure or heart disease

What are the symptoms?

Signs and symptoms of diabetes include:

- Unusual thirst
- Frequent urination
- Unusual weight loss
- Extreme fatigue or lack of energy
- Blurred vision
- Frequent or recurring infections
- Cuts and bruises that are slow to heal, and
- Tingling or numbness in hands or feet

It is also important to recognize that many people who have Type 2 diabetes may display no symptoms.

pressure on the health care system. It is estimated the disease costs the Canadian health care system more than $620 million each year.

Unhealthy lifestyles, eating habits and a lack of exercise are playing large roles in the increasing rate of diabetes. Obesity is one of the largest contributors, which is occurring at a younger and younger age, according to Dr. Alun Edwards, endocrinologist and Medical Director of the Regional Diabetes Education Centre in Calgary. "Diabetes is increasing hand in hand with the amount of obesity in the population." Maintaining a healthy level of physical activity isn't getting any easier, either, which doesn't help the cause. "There are fewer jobs that are providing physical activity now and people haven't made the lifestyle adjustment to cope with that."

"Diabetes is increasing hand in hand with the amount of obesity in the population."

While there is evidence to suggest that some people at risk of getting the illness can reduce their likelihood by taking certain medications before diagnosis, changing bad eating and exercise habits is proving to be even more effective at preventing or delaying the onset than medications, says Dr. Edwards. He says studies conducted in the past three years have shown that people with impaired glucose tolerance (those likely to develop diabetes) can benefit greatly from dietary changes and indulging in regular exercise, regardless of family history.

Something as simple as taking a brisk walk every night can potentially prevent Type 2 diabetes. Increasing overall physical activity also will improve general health in other ways – not to mention shedding a few extra pounds.

Colebrook says that while he indulged too often in junk foods before his diagnosis, he is now indulging in things that will help him to enjoy a better quality life with his wife and two sons. Because of the early stages of its development, Colebrook is able to manage his condition with dietary changes and regular exercise – and that means plenty of dog walks and better eating. "You don't have to have chicken-fried steak or battered pork chops or mashed potatoes and gravy for lunch every day," says Colebrook. "It's not a major lifestyle change to eat the right way."

While it's not always easy – Colebrook's job entails travelling to clients all over southern Alberta – he forgoes the neighbourhood greasy spoon diner in favour of healthier alternatives. Colebrook takes fruit and veggies with him and strictly follows the Canada Food Guide – albeit he does sneak a chocolate treat once in awhile. "I know where every Subway is in my territory and those are the places I try to eat."

Roslyn Cummings, a nurse educator at the Diabetes Education Centre in Calgary, says there is a heavy emphasis these days on prevention and awareness to help combat the increase in diabetes cases. "Heredity may load the gun, but other things pull the trigger," Cummings says.

An aging population, combined with sedentary lifestyles, super-sized food portions and more highly processed foods are all factors that contribute to the "diabetes epidemic," she says.

For those who know they are at risk for diabetes, the goal should be to try and delay the onset of the condition as long as possible. This can be achieved through dietary changes, weight loss and increased activity – "natural medicine."

Cummings says the basic problem underlying Type 2 diabetes is "insulin resistance" – a state in which the body's cells respond sluggishly to the action of insulin. Compare this situation to an iceberg. Above the surface, you see high blood pressure, high blood sugar, increased cholesterol and obesity, but the root cause of this cluster of conditions is the insulin resistance lurking below the surface. "Once researchers unravel the mystery of what causes this insulin resistance to occur, great strides will likely be made in the prevention and treatment of Type 2 diabetes," Cummings says.

Colebrook knows that eventually he may have to take medication. Diabetes is a progressive illness, which means at some point the pancreas will produce even less insulin. Medications are used to compensate for the decrease, but eventually even insulin injections may be necessary. Still, he is keeping a positive outlook. "Coping with this is all about choices. If it's important to you to be able to do the things you enjoy doing, then you're going to make some very small sacrifices and adjust the way you do things," he says. The alternative is not very appealing - reduced mobility, further health complications and possibly death. "I like to fly-fish, as well, and that's very hard to do in a wheelchair."

Dr. Edwards says progress has been made in the type and availability of resources for diabetics and for those at risk, but adds that more needs to be done to address the growing numbers with the disease. Educating adults and children about making healthier choices is key. Aside from fighting obesity and providing people tools to live healthier lives, there is a need to customize support services for different stages of the disease. People should also be encouraged to get tested if they fall into any of the risk categories, even if they are young children, adds Dr. Edwards.

"We're trying to do things that meet their needs, but there's still a lot of work that needs to be done on defining those needs accurately," he says, pointing to examples such as simple and less invasive testing supplies like those used to monitor blood glucose levels of diabetes patients. The Diabetes Education Centre also runs prevention programs aimed at high risk individuals.

Colebrook's outlook says it all. He knows that having diabetes means serious health problems may catch up to him at some point, but he hopes that by taking action now he will be able to significantly delay those problems. "Life is too short to worry about that stuff. I'm just focusing on the stuff that's fun and the things I have to look forward to."

Derek Sankey is a Calgary writer.

Fast Facts

- Over two million Canadians have diabetes. The number is expected to hit three million by 2010.
- Currently 105,000 Albertans live with diabetes. Each month an additional 1,000 persons are diagnosed with the disease. (Alberta Diabetes Strategy 2003).
- This year more than 60,000 Canadians will develop diabetes.
- Every eight minutes another Canadian is diagnosed with diabetes.
- One quarter of all new cases of serious kidney disease stems from diabetes.
- In Canada, diabetes is one of the top seven leading causes of death due to disease.
- Heart disease is two to four times more common in people with diabetes.
- Diabetes is a leading cause of adult blindness.
- Worldwide, half or more of all non-traumatic limb amputations are due to diabetes.
- It is estimated that by 2030 about 300 million people will have diabetes around the world.
- There is no cure for diabetes, but it is a manageable, chronic illness.

Source: Canadian Diabetes Association and Diabetes Education Centre

RESOURCES:

- Diabetes Education Centre: (403) 943-2442
- Canadian Diabetes Association: (403) 266-0620
- Calgary Health Link: (403) 943-5465

www.calgaryhealthregion.ca (Search diabetes)
www.diabetes.ca (Canadian Diabetes Association)

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Peptide pioneer

Hans Vogel believes the amino acids found in the human body hold the key to creating natural defense mechanisms against superbugs like e-coli, influenza and meningitis

BY DONNA GRAY

If Hans Vogel has his way, our bodies will become the greatest tool in fighting off common and not-so-common viruses and bacteria like West Nile, SARS, even cancer and AIDS. It all begins with figuring out how our human defense peptides can fight bacteria and help prevent illness.

Vogel, who hails from Holland, works in the fields of biochemistry and structural biology at the University of Calgary. A Heritage Medical Scientist and professor of biochemistry, his major interest is pinpointing natural systems, called antimicrobial peptides, by using powerful magnets assembled in a $4 million Nuclear Magnetic Resonance (NMR) Spectroscopy Centre located in his laboratory.

"Everybody is outfitted with about 20 different peptides or strings of amino acids in various areas of our body – skin, lungs, tears, white blood cells, etc. Many of these seem to be linked to the immune system," Vogel says. "Amazingly, we've discovered that they lay waiting to be triggered by bacteria. When the peptides latch on to a bacterial cell, they punch holes right through it. That is the first line of defense, but at the same time, they also mobilize the rest of the immune system."

The human body is capable of adapting to change, even in a diseased state. But bacteria are different. They're smart – so much so, researchers struggle to keep up with the demand for new antibiotics, from which they have become keenly resistant. In fact, it's been about a decade since the last truly novel bacteria-fighting drugs hit the shelves.

Vogel says the world is aching for a cure. "Figuring out what peptides do and how they're triggered into action is the first step. The second is tinkering with them so they work smarter. And the third involves creating drugs that would activate the natural defense mechanisms without harming the human host," he states.

About 10 years ago, only a handful of antimicrobial peptides were identified. Now there are over 800, so far. Studying how these peptides operate, as well as the triggers that kick them up a notch, costs money – lots of it. And when it comes time for a drug company to put few drugs to the test, the budget rings in at about $1 billion.

"When you look at the work our team does here in Calgary, which is really mining genes for unusual proteins, we're making a significant contribution in the long run to greater health worldwide. Basic sci-

"We're making a significant contribution in the long run to greater health worldwide."

ence is a very important part of what we do. Our batting average is becoming very good. But to those to whom you are accountable, which includes the general public, curiosity isn't enough, results are the key," Vogel says.

And results are exactly what Vogel is aiming for. He's written over 200 scientific papers on the subject, and has traveled the world promoting the research findings of his team. His work is also supported by the Alberta Heart and Stroke Foundation, the Canadian Institutes of Health Research and the Natural Sciences and Engineering Research Council, which helps to serve the ever-present need for more funding.

Last year, Vogel and his co-workers were approached by researchers from UCLA to study a wayward peptide that had some interesting characteristics. "We noticed that this one had a rather unusual structure even though it was first found in human urine. It is now known that this peptide is produced by the liver and regulates the body's intake of iron, much like insulin regulates blood sugar levels. Suddenly, we started to get invitations all over to present our findings."

Vogel says our bodies can't survive without iron, but neither can bacteria, which literally can suck iron out of our system when we're sick. Vogel's team realized that if we can keep iron away from bacteria, it can't grow and take over. This could be the key to controlling infectious diseases. His team is now mapping out the molecular details of how bacteria acquire iron, in the hopes of targeting this machinery with completely new types of antibiotics in the future.

Vogel's work in determining how the body uses calcium to regulate health is another prime source of interest. The calcium-rich foods we ingest are great for our bones, but not for our cells, which can become very sick if they take in too much. "We haven't figured out yet how the calcium-binding proteins in a cell can be used to prevent heart attacks and aneurysms, but lots of researchers around the world are working on this and with the work we're doing at the University of Calgary, we'll make a difference in the end."

Donna Gray is a communications advisor at the University of Calgary.

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Get ready for grad

Photo by Dave Lowery

The big party is intended to be a time for celebration. But all the hype and hoopla can also push kids into making potentially dangerous decisions

BY CAREY MILLAR

Ask any 17-year-old and they will tell you that graduating from high school is right up there with the top adult stressors like changing jobs, buying a house, or getting married. It is, after all, the culmination of 12 years of hard work and perseverance and signals the start of a brand new chapter in their lives.

"This really is an exciting, emotional and often stressful time for many teens," says Carrie Bon Bernard, co-ordinator of Mental Health Promotion with the Calgary Health Region. "Grade 12 is one of the critical years in a teenager's life. It is the lead up to the biggest transition of their lives thus far as they leave behind adolescence and enter into adulthood."

The combined pressures are immense – not the least of which are making some tough career decisions and focusing on getting good grades. It can take its toll.

"We put a lot of pressure on kids at this stage in life," adds Bon Bernard. "We are asking them to make some very adult-like decisions at a time when many of them haven't reached their peak in maturity. That can lead to teens feeling depressed, scared and alone."

Chelsea Hiebert, a Grade 12 student at Lord Beaverbrook High School, knows what that kind of stress can feel like. "For me, it's been the pressures of getting into university, the averages especially for U of C (University of Calgary) have gone up so much," says Hiebert, who is considering a career in nursing. "I've been under so much pressure (this year) and I know a lot of my friends have too. But I mean (graduating) is sort of like a new adventure and it's exciting in that way. In other ways you want to enjoy your last year of high school."

Fellow Beaverbrook grad, Cindy Gibney, who is leaning towards becoming a teacher, concurs. "It's kind of hard to know what you want to do. Especially if you've never had any experience. How are you going to know if you really are going to like that job?"

If planning for the future weren't enough, throw into the mix grad night itself, complete with landing a date and finding the perfect outfit. Janet Hettler, a sexual and reproductive health specialist with the Calgary Health Region, points out that grad night has become so commercialized and glamorized that teens find they have to act like adults, wearing formal party attire, riding in limousines and drinking champagne to toast their accomplishments.

"Some people feel pressured to do all that because everyone else is," says Hiebert. "(Other) people are just getting a ride with their parents or instead of going to after grad parties, they are just going back to their house and doing something smaller. But, lots of kids are going all out."

With all they've been through – and will go through – it's no wonder that teens want to let off some steam before parting ways. But experts caution that the partying can often lead teens into some risky behaviour with devastating consequences.

"Grad night is the one time in teenagers' lives when they might be more inclined to take chances or make choices that they wouldn't, under other circumstances, make," says Christine Pedersen,

project co-ordinator with the Injury Prevention and Control Services team of the Calgary Health Region. "It is also the one time in their young lives when more teens will celebrate at the same time and often in the same place. As a result, some teens get caught up in the party atmosphere and make snap decisions in the heat of the moment."

In the majority of those cases, alcohol will be a factor. "We know that many teens drink on grad night," says Hettler. "And we know teens that drink are seven times more likely to have sex than teens who don't drink. Combine that with the fact that alcohol is frequently a reason many teens cite for not using a condom during sex and you have the potential for teens to contract a sexually transmitted disease or, in the case of girls, become pregnant at grad time."

"We know that many teens drink on grad night. And we know teens that drink are seven times more likely to have sex than teens who don't drink."

Gibney says there is an expectation among grads that drinking will be part of the event. "I know that probably 100 per cent of my friends will drink because it's grad night. You're done, well you're not technically done, but you are in the frame of mind that high school is finished, it's almost over."

"When you are drinking, you do things that you would never plan on doing before," agrees Hiebert, who doesn't plan to indulge. "In my mind it doesn't seem like it (alcohol) would change the night for me, but in other people's eyes I know that's their whole focus."

It is not only unprotected sex that is cause for concern. Alcohol is the most-used date rape drug and the risk of sexual assault increases when teens are drinking. "For some people, grad night is just a big excuse," says Gibney. "Some people make bad decisions sexually and do things they would never, ever do if they were sober and they regret it so much the next day. My friend, who graduated last year, had sex with a girl just because he wanted to have sex before he finished high school."

Health experts encourage teens to rehearse how they will deal with any such risks if they find themselves confronted with them on grad night. The Calgary Health Region has also developed the smartgrad campaign to help teens avoid hastily made choices. The campaign is tailored to fit the needs of each high school and is co-ordinated by the public health nurse assigned to each school. Campaign activities range from displays and discussions to mock disasters that vividly demonstrate the consequences of drinking and driving.

"When it comes to celebrating grad, there is a line between smart risk and stupid risk and everyone draws their own line," says Pedersen. "We hope to offer teens an opportunity to think about where they draw the line before they find themselves in a risky situation."

Both Gibney and Hiebert are members of the smartgrad committee at Lord Beaverbrook. They have planned a number of activities to encourage their peers to think before they act. "It's really hard to say how effective it (the smartgrad campaign) is in a school as big as ours," says Gibney. "But I mean it's worth a try, just to make them aware. All you can do is hope," adds Hiebert.

Smartgrad is not the first such program the Region has undertaken. Several years ago, in an effort to encourage teens to avoid risky sexual decisions, it launched a campaign that provided a condom and information package about safe sex that accompanied the rental of every tuxedo. Hettler says the two top reasons teens cite for not using a condom during sex is a lack of money to purchase them and not being prepared because they were not planning to have sex that night.

The condom-in-a-tux concept was designed to remove those barriers but the program met some controversy. The Region decided to drop the program after two years. Hettler and her colleagues now plan to take a closer look at the matter. "We'll be doing some research into the issue this year. For instance, one of the things we'd like to know is whether there are more teens coming in for emergency contraceptives after grad," she says. "We'll also be looking at developing a program similar to (or possibly as part of) the smartgrad campaign."

Pedersen notes that decisions teens face on grad night may not be very different from the ones they face everyday, but "for a variety of reasons, risky behaviour during graduation is more than just a possibility—it can be a rite of passage."

"We also need to remember that there are a large number of teens who will drink responsibly and won't engage in unprotected sex or any other risky behaviour on grad night," adds Bon Bernard. "We need to support teens and encourage them to be smart and be safe. But we also need to acknowledge that a good many of them do understand the consequences of making a bad decision and they will make the best choices on grad night."

Like those teens, Gibney and Hiebert are philosophical about the upcoming event, refusing to get swept up in bad decisions or the hype of it all. Both plan to enjoy their grad night, but they are more focused on their future plans.

"To me, it's just made out to be way more than it really is," says Gibney, who believes graduating from university is a much bigger deal. "All the money and stuff that goes into it—I don't believe you have to go out and spend (a lot). I think it should be more of a celebration of finishing 12 years of school."

Carey Millar is a correspondent for calgaryhealthregion.ca.

Smartgrad messages

Look first
Plan ahead to ensure your friends' and your own safety.

Buckle up
If you are travelling in a vehicle use a seatbelt. Make sure there enough seat belts for all passengers.

Drive sober
If you are going to drink, don't drive. Plan your safe ride home.

Wear the gear
If you are going to do anything for which protective equipment is available, wear it.

Minimizing Your Sexual Risks

- Avoid the use of alcohol and drugs
- Use substances in moderation
- Use the buddy system
- Watch your drinks
- Don't accept drinks from strangers
- Think about your sexual decisions while you are sober
- Talk to your partner/friends/family about sexual decisions while sober

www.calgaryhealthregion.ca/hecomm/IPC/youth.htm

www.calgaryhealthregion.ca/hecomm/IPC/cipc.htm

www.madd.ca

www.saddalberta.com

www.saferoads.com

Mental Health Websites:

www.lifelongmentalhealth.com

www.calgaryurbanvibe.ca

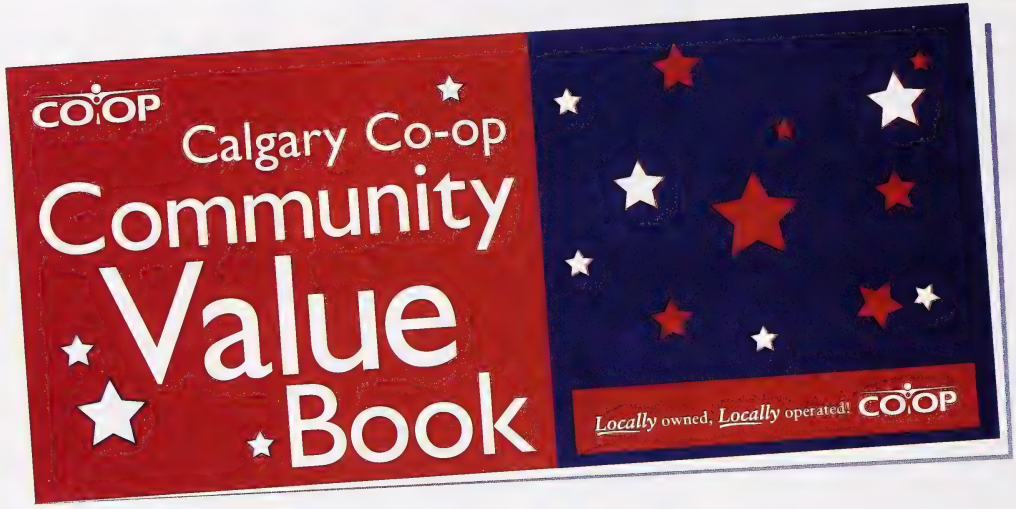
www.suicideinfo.ca

Sexual and Reproductive Health websites:

www.calgaryhealthregion.ca/sexhealth

www.teachingsexualhealth.ca

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Photo by Kelly Brownlee

Toast of the town

The Belluscis believe in mixing a little philanthropy with their wine

BY FIONA WREN

Carlo and Rhonda Bellusci have always wanted to give back to their community. They never imagined that when they set out to plan their first fundraising event they would find so many people who felt the same way.

"Philanthropy is something we've talked about ever since we got married. It's never been about how much money we have," says Rhonda, who regularly gives her time and energy to a variety of causes. "I love being involved in my community."

Both Rhonda and Carlo know firsthand that there are plenty of fundraising events for Calgarians to choose from – in fact, they attend a variety of events each year. "We knew if we were going to do this, we'd have to do something different," says Carlo. "Something people haven't seen before."

What they came up with was an elegant evening of wine-tasting, a natural extension of their business – Vendemmia International Wines, a wine agency that brings fine Italian wine to Calgary. The Great Italian Wine Encounter featured 13 of the finest Italian wine producers, haute cuisine, and a silent auction that included trips to Italy among its prizes.

"We knew if we were going to do this, we'd have to do something different."

The Belluscis soon found that with the help of friends here and in Italy, they had all the ingredients for a different kind of fundraiser. Carlo's carefully-forged relationships with the wine producers prompted them to not only donate wine and vacations to the silent auctions – they also flew to Calgary to attend the event in person. "When Carlo called to ask them if they'd be willing to donate vacations to the auction, they said, 'anything you want'," says Rhonda. "They actually offered up their homes." The evening far surpassed their original fundraising goal of $30,000 to raise $150,000 toward cancer treatment in Calgary.

"The wine-tasting was Carlo's idea," says Rhonda. "We wanted to get the word out about Italian wine. We also wanted the evening to be different from technical tasting – more casual and fun," she says. "Wine agencies don't normally hold philanthropic events," says Carlo, "so the wine producers were really excited about it. Some of them got here at 5 p.m. and came straight to the event. They were jet-lagged, but they had a great time."

Rhonda's network of friends in Calgary also pitched in to help her sell tickets and get the word out. And their efforts paid off – the group who attended the evening was a diverse mix. "I only knew about half the people there," she says. "But it seemed that all the people who were there really wanted to give."

Discovering the generosity of friends, business associates and perfect strangers has been an eye-opener to the Belluscis. "You learn a lot about people and how they feel about philanthropy when you put together an event like this," says Carlo.

"It probably wouldn't have come about if we hadn't worked with the Foothills Country Auction and knew about the Calgary Health Trust," says Rhonda. The Trust helped plan the event, but they also helped Carlo and Rhonda choose an area of health care to support. The Apheresis Clinic provides cancer patients with life-saving treatment, similar to dialysis, often used in stem-cell transplants.

With the success of the event still fresh in the minds of everyone who attended, Carlo and Rhonda are now thinking about their original goal, and how the $150,000 they raised will help cancer patients who use the Apheresis Clinic. "We chose to put the money towards cancer because it's something that will probably touch us all," says Carlo. "Think about all the grandparents, parents and kids who will live because of the Apheresis Clinic…It's great to give to something that will make a difference."

Fiona Wren is a Calgary writer.

www.thetrust.ca


Rebecca Nuelle practices a relaxation technique

Photo by Paul Rutzinger

Managing your migraine

What is a migraine?

- A headache disorder that can affect anyone and tends to run in families
- Results from a neurobiochemical imbalance in the brain
- Women are more often affected than men
- Can be triggered (not caused) by several factors, including diet, weather changes, stress, and irregular sleep habits
- May be preceded by an aura - symptoms that occur five to 30 minutes before the headache – including bright lights, shimmering or wavy lines, partial vision loss, flashing lights, blurred vision, or numb/tingling sensations around mouth/tongue and fingers/hand
- Is usually moderate to severe in intensity
- Affects one side of the head and usually lasts four to 72 hours
- Usually involves pulsating pain
- May be worsened by physical activity
- Can be accompanied by nausea and/or vomiting, photophobia (light sensitivity) and phonophobia (sound sensitivity)
- May interfere with one's ability to take part in their day-to-day activities

Migraine Prevalence

- Listed by the World Health Organization as one of the top 20 medical disorders
- 25,000 plus affected by migraine in Calgary
- 3.2 million Canadians over the age of 15 (16.5 per cent of the population) have suffered from migraine (Angus Reid survey, 1990)

Rebecca Nuelle lived in fear of the splitting headaches that would leave her lying in agony. Now she is learning to take back her life

BY LEIF SOLLID

Like dark clouds that foreshadow a summer storm, the first signs of migraine can appear suddenly, a harbinger of the throbbing pain about to be unleashed.

For Rebecca Nuelle, those warnings usually arrive about an hour before the migraine takes hold – offering a small window of opportunity to head off the mind-numbing agony. "I feel lightheaded and dizzy," she says of the tell-tale symptoms. Left unchecked, the symptoms can quickly spiral into a headache so severe she is rendered a virtual prisoner to pain for several hours or several days.

"When they are at their worst, you don't want anyone talking to you, you don't want anyone touching you," explains the mother of three who moved from Houston, Texas to Calgary two years ago. "All you want to do is to lie down in a quiet, dark room. You can't cope with anything else."

Just a few months ago, Nuelle lived in fear of her migraines – in fear of the suffering inflicted by the headaches and in fear of the control the attacks were having over almost every aspect of her life. "I was controlled by it. I was afraid of going very far from home," she says in her Texas drawl. "It was hard seeing my friends … it's very debilitating. It causes depression. It wrecks your sense of self-esteem because you can't do anything."

Although there is no known medical cause or cure for migraines, headache sufferers like Nuelle are learning how to gain some control over their chronic condition through a new program at the Foothills Medical Centre. The Calgary Headache Assessment and Management Program (CHAMP) opened in October 2003 with the objective of giving patients the tools necessary to gain the upper hand on their headaches. The program team includes neurologists, a nurse co-ordinator, an occupational therapist, a kinesiologist and, soon, a psychologist.

In addition to receiving a thorough medical assessment and advice on medication, patients are taught how to lessen the severity and duration of their headaches through a variety of self-management techniques including relaxation, stress management, sleep, exercise and body mechanics.

Dr. Werner Becker, Program Director, says

CHAMP's multidisciplinary approach to care is paramount, since many studies have shown that non-medication approaches are often helpful in mitigating the debilitating effects of headache disorders. "Our hope is that we can treat patients more effectively if we combine medication and non-medication approaches," explains Dr. Becker, who notes this same method has already been used to better manage other chronic conditions like diabetes and hypertension. "We believe by combining the two approaches, we can give people the greatest chance of controlling their headaches and improving their overall quality of life."

Since opening last fall, more than 300 people have been accepted into CHAMP, and new patients are referred almost daily, creating a waitlist that now exceeds four months. This demand is hardly surprising considering that an estimated 18 per cent of women and six per cent of men in North America suffer from migraines. "Three to four per cent of people in Calgary have a headache every day. If you think about it, that's nearly 40,000 people. That's enough to fill the Saddledome a couple times over," observes Dr. Becker.

Occupational therapist Cheryl Lake says the clinic takes very seriously the "mind-body connection," which she says has long been overlooked in the more traditional medical model. "If we are going to be successful in headache management, we have to acknowledge that this connection exists."

To that end, Lake and her colleagues work with patients to empower them with the skills and knowledge to better understand and better manage their disorder. Patients participate in a variety of education sessions and workshops, where they are taught everything from deep breathing techniques that promote relaxation to strategies that empower them to lead a healthy, balanced lifestyle.

Nuelle admits she was skeptical of the non-traditional aspects of the program when she first started, but any doubts she once held have greatly diminished – along with the severity and length of her migraines. "I think the thing that changed for me first was the recognition that I have a problem and no, it's not just because I am stressed out," she says, emphasizing the relief she felt at finally being understood. "I am not an emotional basketcase, and I think that is sometimes the way migraine is understood. The second thing that meant a lot is the knowledge that I don't have to take a drug every time I have an attack."

Nuelle says the difference in her life since attending CHAMP is like "night and day." She attributes this to widespread changes she has made to her lifestyle: she now delegates more daily tasks to her three teenaged children, she has learned how to relax and she has improved her communication with her family.

"They teach you how to change your lifestyle, which is absolutely necessary for a migraine sufferer," she says. "I have learned to give myself a break, to allow myself to take life a little bit easier. I have learned to ask myself 'Is this important? Where does this fall on my list of priorities?'"

Although she still suffers from migraines, Nuelle says thanks to CHAMP, she no longer lives in fear. "I am living my life," she says proudly. "My headaches are not living it for me!"

Leif Sollid is a communications advisor with the Calgary Health Region.

What does CHAMP offer?

- A multi-disciplinary approach to patient care, including neurologists, a nurse, an occupational therapist and a kinesiologist
- Assessment and management by a neurologist with a special interest in headache disorders
- Monthly headache education sessions for patients and their families
- A variety of patient workshops to foster knowledge and skills in headache self-management
- Lectures on topics of interest, including pacing activity and ergonomics

Referrals to CHAMP

Individuals must be referred by their family doctor or other specialist. Individuals must:

- Have a primary diagnosis of migraine and/or tension-type headache
- Be between the ages of 16 to 70
- Have between two to 15 days of headache per month
- Have an interest in learning headache self-management skills to complement medical approaches to management

Referrals should include medical history, current medications and average number of headache days per month
Referrals can be faxed to 403-944-1154

Headache self-management

Have your headaches assessed by a doctor to determine a diagnosis

- Seek information to help you understand your headaches and what can trigger them
- Become a trigger detective – know yourself and your headaches and avoid/minimize triggers where possible
- Adopt a healthy, balanced lifestyle that includes regular exercise and sleep habits, effectively manage stress and eat well
- Learn skills in self-management, including pacing activity, setting goals, effective communication, positive thinking and relaxation
- Work with your team of doctors and health professionals to come up with a management plan

www.calgaryhealthregion.ca (Search migraine)

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Every picture tells a story

Hospital art program offers long-term care patients a chance for reflection

BY SAMANTHA COLVIN

Debbie Baylin is pushing a trolley loaded with artwork down a hospital hallway when she approaches the room of an ailing boy and his family. On previous occasions, the family has decided against selecting any of the photographs or paintings being offered.

But today is different. Today, the boy's mother picks a picture of a tree growing out of a garbage pile to display on her son's wall.

The picture, entitled "Against All Odds" by British photographer Hag, is a poignant reminder of the power of the human spirit and a symbol of this mother's hopes for her child.

At the request of the family the picture remains unchanged. When Baylin returns a few weeks later, there is a somber gathering of family outside the boy's room. Their beloved child has died. The grief-stricken mother turns to Baylin and, without saying a word, embraces her as if they were intimate friends. Baylin cries along with the woman; staying with her as a silent witness to her unconscionable grief.

A few weeks later, Baylin receives a letter from the family expressing appreciation for her support while emphasizing how the art program had provided hope throughout their arduous vigil. Their words prompted Baylin to track down a second copy of the limited edition print which she then mounted and delivered to the family. The picture still hangs above their fireplace as a reminder of their son.

This story is just one example of how families have been touched by Art a la Carte, founded by Baylin in 1994 as an art lending library for long-term care patients. The program offers patients visual and emotional comfort by providing a chance to add a personal touch to the impersonal setting of a hospital room. "The program is far more than just pictures, it's about turning moments into masterpieces," Baylin says. "Patients can easily become their disease. We try to shift their focus to places of meaningful connection and hope."

Baylin developed the idea for the program while visiting her friend, Patti Hronek, who spent the last year of her life in hospital. In a bid to boost her friend's spirits, Baylin brought in select photographs and prints to display on Patti's hospital room wall. The hope was that the pictures would help Patti reconnect with the life she led outside her hospital room. In no time at all, Patti's picture display became the talk of the hospital ward, and Art a la Carte was born.

Beginning with 75 posters donated by museums and galleries, such as The National Gallery of Canada and The Smithsonian Institute, Art a la Carte has grown to include over 600 works of art. Members of the strictly volunteer program have made more than 18,000 visits to local hospitals. Now a fully registered charity, Art à la Carte has projects in eight health care facilities in Calgary, as well as Victoria and Toronto.

Baylin says that working with people who are dying allows her to explore what is important in life. "It is all about giving back," she says, and sharing precious moments." The value of the program has not gone unnoticed. Baylin recently received Global TV's prestigious Woman of Vision award. The award celebrates the outstanding accomplishments of women in Calgary who have implemented their passion and are an inspiration to all. "Although it was an amazing experience to be one of 12 women selected this year, I feel that my efforts are about helping the patients and the community, not about being recognized for it," she says.

However, she does hope that the Art à la Carte concept will be recognized and implemented in hospitals throughout North America. "Other than being a mother, this is the most life affirming work I have ever known," she says. "It's a little idea that's making a very big difference."

Samantha Colvin is a Calgary writer.

A comprehensive overview of the program can be found at www.artalacarte.org.

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A Day in the Life

Nurses: Knowledge and commitment at work

PHOTOGRAPHY BY MAJA SWANNIE



Janice Gibson, Licensed Practical Nurse
Janice (right) assists Bill Scott, a patient at the Home Hemo Selfcare Dialysis Unit at the former Colonel Belcher Hospital.

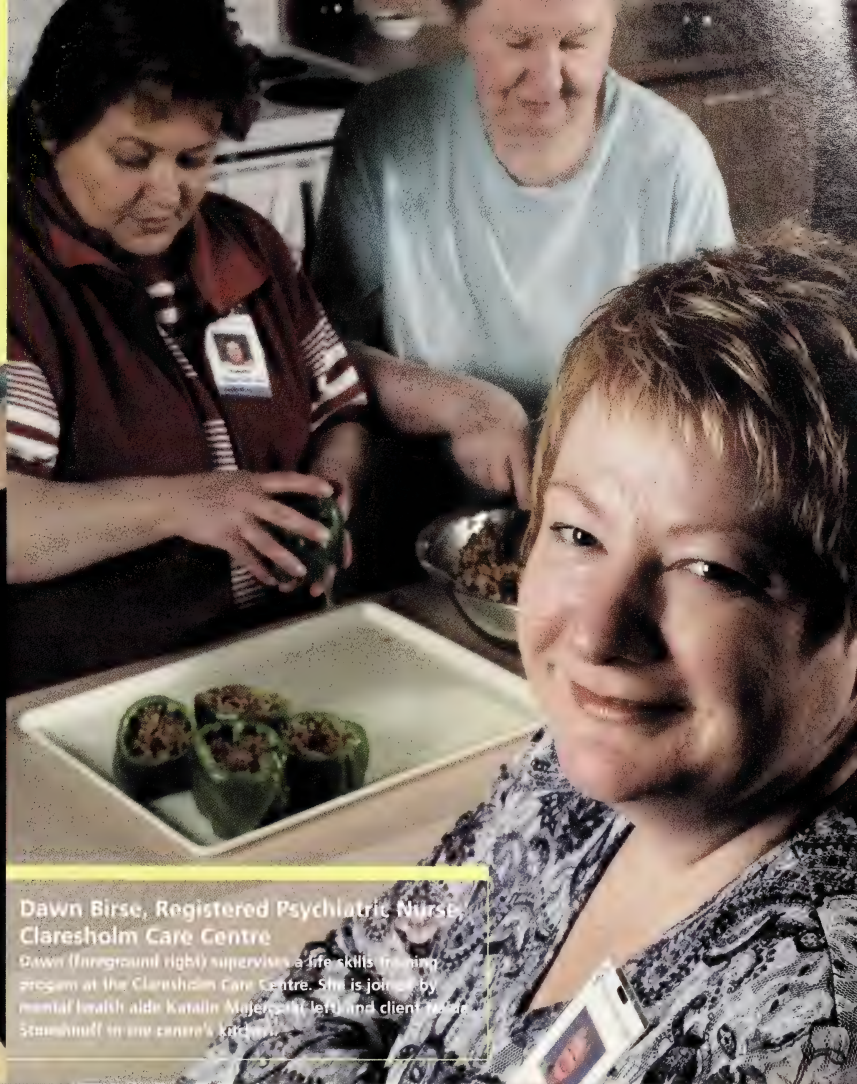
Susan Wooding, Team Leader
Susan (right) assists Lisa Powell. Both nurses work at Health Link, Calgary's telephone health information line.

Doug King, Staff Nurse
Doug (left) helps patient Henrik Regitnig relax during a visit to Canmore's Emergency Department.

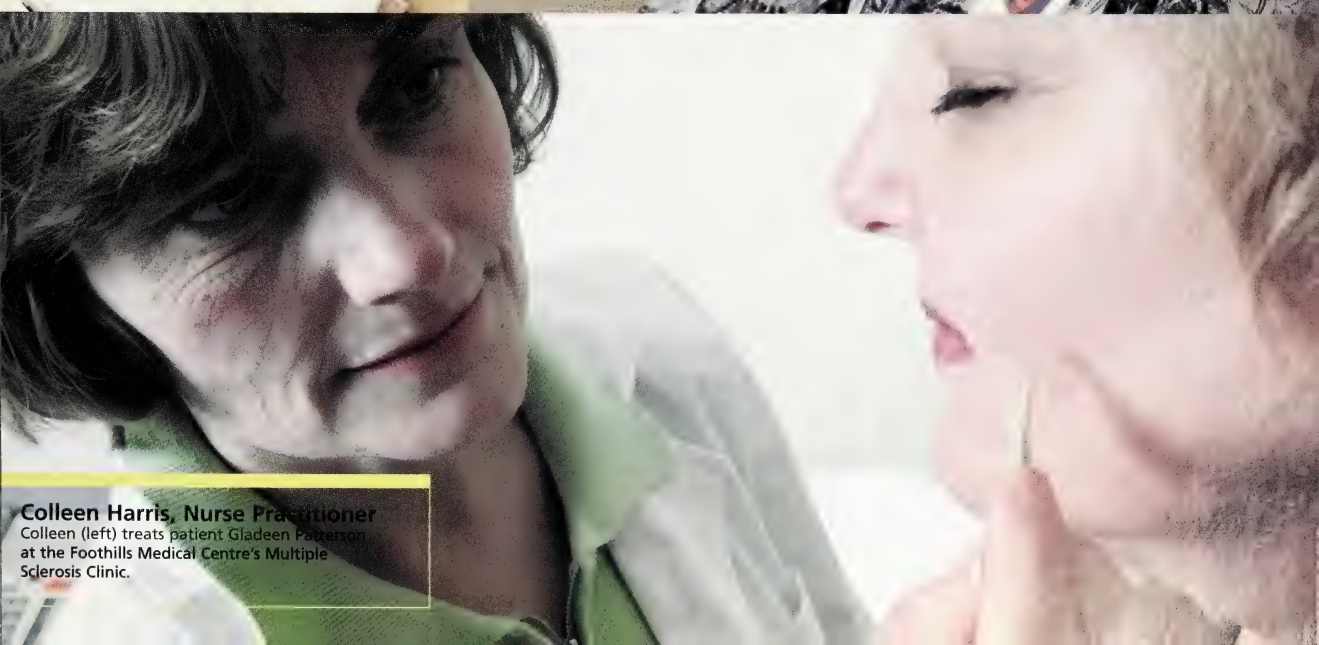
Whether it's in the Emergency Department, a mental health unit or working in the community to promote pubic health, nurses have become an increasingly important part of our ever-evolving health-care system. As part of our recognition of Nurses Week, May 10 to 16, we asked photographer Maja Swannie to capture the many different roles nurses play in building a healthier community.



Karen Jackson, Research Consultant
Karen reviews a report on current health services at her Southport office.

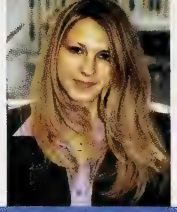


Dawn Birse, Registered Psychiatric Nurse, Claresholm Care Centre
Dawn (foreground right) supervises a life skills training program at the Claresholm Care Centre. She is joined by mental health aide Katalin Mujer (left) and client Renae Stonehouse in the centre's kitchen.



Colleen Harris, Nurse Practitioner
Colleen (left) treats patient Gladeen Patterson at the Foothills Medical Centre's Multiple Sclerosis Clinic.

Nutrition with Susan Howell





Snacking your way to a healthy body

10 fantastic snack ideas

1. Fruit or veggies with low fat dip
2. Low fat yogurt, creamy or frozen
3. Lean deli meat wrapped around veggie sticks
4. Nuts and seeds mixed with dried fruit and cereals
5. Whole wheat pita wedges with hummus and tzatziki
6. Air popped popcorn sprinkled with herbs or parmesan cheese
7. Nut butters or light cheese on multigrain crackers
8. Baked tortilla chips with salsa
9. Frozen berries or grapes
10. Bean salads

Five rules to help you shrink your waist by eating more often

Snacking is frequently targeted as a major culprit in weight gain.

People often eliminate snacks in an attempt to lose weight. The truth is sensible snacking can be a useful tool in fostering a healthy weight and body. Spread out your food intake and shrink your waist.

Research indicates that smaller portions of food distributed throughout the day can help you lose the pounds and keep them off. Smart snacking can energize your body, curb your cravings, and prevent overeating at other meals. The secret lies in what you eat, how much you eat, and how often you eat.

Follow these five rules of snacking and you'll be on your way to a healthier and happier body:

1 Healthy food choices. Limit foods high in saturated or trans fats and sugar. These foods will leave you tired and sluggish and contribute to poor health. Choose foods packed with healthy nutrition, less processed choices are better. Aim for snacks with foods from at least two groups from Canada's Food Guide To Healthy Eating.

2 Give your snacks substance. Foods with fibre or protein will keep you satisfied, energized, and curb cravings. Sources of fibre include grains, cereals, seeds, nuts, legumes, fruits and vegetables. Protein rich foods include lean meats, fish, eggs, legumes, nuts, seeds, soy, and dairy. To pack nutrition and increase sati-

ety, snack on "meal type" foods in small portions such as canned fish with multigrain crackers, bean salads or hearty soups.

3 Portion size, portion size, portion size. Don't fall victim to portion distortion. Any food in excessive quantities will equate to extra calories and body weight. Go for quality, not quantity. Choose foods high in nutrition and keep portions small. Prevent "mindless munchies" by distracting your hands and mind with activities such as crafts or exercise. Remember to "take from Peter to pay Paul". In other words, adding snacks into your daily diet means having smaller portions at meal times to help redistribute the calories and keep the balance. Be sure, too, that you are keeping your body well hydrated. Your brain has a difficult time distinguishing between the signals for hunger and thirst. Often a glass of water will do the trick to satisfy what you mistook for hunger.

4 Plan your snack attack. Identify times throughout the day when energy is low and hunger is high. Schedule a snack at these times. The "3 p.m. slump" is a common time when people complain of feeling hungry, stressed and tired. A healthy snack such as 10 to12 almonds mixed with dried fruit, strategically planned at the right time, can energize your body and prevent overeating at dinner. "Out of sight, out of mind." It's true, keep less healthy snack foods such as ice cream or potato chips out of the kitchen to decrease temptation. Plan ahead, stock the fridge and shelves with healthy choices that are readily available.

5 Satisfy your cravings. Savoury, salty, sweet, or smooth, identifying your cravings will help you to choose healthy alternatives to satisfy you. Depriving yourself entirely of treats will only leave you wanting more. Practice the 80:20 rule, enjoy a healthy diet 80 per cent of the time and treat yourself to those "sinful temptations" the remaining 20 per cent. Remember, all foods fit but choose your treats wisely, they do add up fast!

Balance and moderation are key concepts to a healthy lifestyle. Snacking should fulfill the physiological need for nutrition as well as the physical and emotional desire for taste and enjoyment. Smart snacking will fuel a healthy mind and body, keep you energized, and satisfy your desire for tasty sensations!

Susan Howell is a registered dietitian at the Calgary Health Region's Diabetes, Hypertension and Cholesterol Centre.

Sensational snack squares

These squares are sure to meet the five rules of snacking and contain all four food groups. Pair with a glass of lowfat milk to kick up the nutrition and enjoyment even more!

- 3 tbsp ground flaxseed
- 3/4 cup chopped dried apricots or cranberries
- 1/2 cup coarsely chopped almonds
- 1/4 cup raw sunflower seeds
- 1/4 cup Kellogg's All Bran Buds
- 3/4 cup Kellogg's Special K cereal
- 3/4 cup Vector cereal
- 1/2 cup quick cook oats

- 2 tbsp non-hydrogenated margarine
- 1/4 cup brown sugar
- 1/3 cup honey
- 2 tbsp peanut butter
- 1/4 cup skim milk powder
- 1/4 tsp cinnamon
- 3/4 cup miniature marshmallows*
- 1/2 tsp vanilla

In a large mixing bowl, combine the first eight ingredients. Set aside. Combine margarine, sugar, honey, peanut butter, skim milk powder and cinnamon in a small saucepan. Stir constantly over medium heat until mixture is smooth and creamy. Add marshmallows to mixture and stir until marshmallows are melted. Remove from heat, stir in vanilla. Pour over cereal mixture and stir until well coated. Lightly coat a 9x13 baking pan with nonstick cooking spray. Spread mixture into pan and press down firmly. Allow mixture to stand until firm in refrigerator, about one hour. Cut into 24 squares

*Marshmallows help to hold this square together, you can replace more honey instead of marshmallows if you prefer



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Take a walk

The first step to a healthier life is right outside your door

The arrival of warmer weather has many Calgarians contemplating what they can do to become more physically active.

For some, thoughts will naturally turn to taking up one of the more rigorous summertime activities, such as jogging or long-distance biking. But there are other ways of becoming more active during the summer, including one that begins, quite literally, at your door step.

Walking is becoming one of the most popular ways to get into shape in Canada, in part because it is a simple activity that can be done anywhere at any time. And the health benefits should not be underestimated. Scientists say a person who accumulates 60 minutes of physical activity every day can significantly prolong his or her life.

The story of Jack Fujino illustrates the benefits of regular walking. Although he was raised on a farm, Fujino took a desk job after graduating from university. By the time he was 49, the now retired mechanical engineer started to realize that he wasn't in the kind of physical shape that he wanted to be. "It was really surprising how out of shape I was," he says. Determined to improve his conditioning, Fujino started walking three times a week, usually twice during the week and again on the weekend, on a route around my neighbourhood.

"I work out for four and a half hours a week. That's less than 10 per cent of my work week and worth the rewards I get."

Today, at age 65, Fujino says he feels better than he did when he was 50. "That's because I can breathe better and I'm physically healthier. I'm two inches thinner on my waist and 10 pounds lighter. I used to be a smoker and I don't do that anymore. Everything's just great. If you are physically fit then I think that your mental state is better."

In addition to improving his physical conditioning, Fujino says taking regular walks also helped him mentally. "I found walking is also a very peaceful time. A couple of months after I started walking, I found I was getting a lot of good personal time to do the thinking that I needed to do."

Fujino says one of the great benefits of walking is that it is simple to do. "I decided walking was a good thing for me, as it's something I can take with me very easily. It's important to make time for yourself. It's not that much time. I work out for four and a half hours a week. That's less than 10 per cent of my work week and worth the rewards I get."

Fujino offers the following tips for anyone interested in taking those first steps towards becoming more physically active:

- Make a commitment to walking regularly. Mostly it was a mental exercise where I had to convince myself it was worthwhile to do.
- Plan walking into your day. I made a schedule and then stuck to it.
- Seek support. One of the strategies I used was to enroll in a fitness program. I enjoy the camaraderie of the group that I'm in now. However, it's not a necessary ingredient for me

Health benefits of walking

60 minutes of brisk walking can:

- **Reduce risk of diabetes by 30-40 per cent**
- **Lower risk of heart disease and total mortality by 50 per cent**

to do what I have to do.

- Start slowly. When I first started walking I couldn't go very far without having to rest. Now I can comfortably do five kilometres.
- Know your limits. Five kilometres gives me the kind of exercise I need to maintain the health of my knees and joints.
- Look first and be safe. I walk during the daylight. If I go somewhere new and I feel it's unsafe to walk, I ask around to find out what else I can do or where to go.
- Wear proper gear to suit the weather and the walking conditions. Just before we went up north, I bought my first two pairs of runners. We sometimes had to wear overshoes because of the marshy hummocks. When it was dry, we took off our overshoes and threw them in our packs.

Christina Weiss is an active living co-ordinator for the Calgary Health Region.

Upcoming Event-Summer Active
May 10 to June 19. For more information contact 943-LINK or log onto www.summeractive.canoe.ca

For information on how to start walking, call the Calgary Health Link- 943-LINK Or call toll-free 1-800-408-5465

For info on walking, log onto www.chatelaine.com/health/walking-clubs/index.jsp

For Canada's Physical Activity Guides for Healthy Active Living, log onto www.hcsc.gc.ca/hppb/paguide/index.html



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Financial contribution to this message provided through Alberta Health and Wellness from the Health Canada Primary Health Care Transition Fund.

Ask a Nurse
Call 943-LINK (5465)





Return to work and breastfeed your baby

Q: My baby is one-year-old and while I am planning to go back to work I wish to continue breastfeeding. Do you have any suggestions?

A: Returning to work is a time of adjustment for both you and your baby. With a little planning and flexibility, breastfeeding can be successfully continued. Think about choices for feeding your baby when you return to work. Your breasts will adjust to this routine. Your decision will depend on how many hours you will work and whether you can pump and store your breast milk at work. Choose a caregiver that is supportive of your feeding plans. Consider leaving your baby with your caregiver for short periods of time before returning to work. This will help you and your baby get to know your caregiver and practise your new routine. Learn how to express your breast milk either by hand or using a breast pump. Practice will help you become more confident with this new skill. Approximately two to four weeks before you plan to return to work, introduce your baby to taking breast milk from a cup or bottle. You can breastfeed before and after work and on your days off. Meanwhile, express your breast milk at work or at home and your caregiver can give the expressed milk to your baby when you are not there to breastfeed.

When expressing or pumping, refrigerate breast milk as soon as possible. It will keep up to 48 hours in the fridge. Throw away any milk left over after feedings. When transporting breast milk to your caregiver, keep it cool during transport. Breast milk can also be frozen. Frozen breast milk may smell or taste differently, but it is still good for your infant. How long breast milk can be frozen depends on where you store it:

- Freezer section of one door fridge: two weeks
- Freezer section of two door fridge: two months
- Chest or deep freeze (temps below -18 C or 0 F): six months.

Frozen breast milk thaws quickly under cool or warm running water, in a pan of warm water or in the refrigerator. You may notice the fat in breast milk may separate during thawing. Gently shake the milk to mix. Refrigerate thawed milk and use within 24 hours. Do not re-freeze breast milk.

Find out where you can pump and store breast milk at work. Do you need to have flexible break times for expressing your milk? Talk to your employer before you return to work. Clothes that open in front make pumping or breastfeeding easier when you are at work. Wearing patterned clothing, such as sweaters or jackets, are good options in case of leaking. You may need to use cotton breast pads until your milk supply adjusts.

For more flexibility, consider using formula or homogenized milk (for infants over one-year-old) for some feeds. As long as you are nursing regularly your milk supply will remain strong.

Take care of yourself by eating well, resting and asking for help. You will need the support of your family, friends and co-workers. Remember, returning to work will be a "new normal" for you and your baby. Be patient while you and your baby adjust to your new routine. Relax and enjoy this new phase of your breastfeeding relationship.

Q: Results from my sister's Pap test were abnormal. I'm worried that it means she has cancer. She needs to have a repeat test in six months. Why does she have to wait?

A: An abnormal result on a Pap test does not necessarily indicate that cancer is present. Different types of cell changes can show up, such as inflammation, infection, HPV-Human Papillomavirus, or on rare occasion, cancer of the cervix. A combination of factors can lead to the production of abnormal cervical cells. These factors include: HPV, sexual intercourse at a young age, the number of sexual partners the woman or her partner has had, smoking, problems with the body's ability to fight infection, or infection as a result of sexually transmitted diseases. If the Pap test is abnormal, a physician's office will call and book another appointment, usually for six months after the initial test. Abnormal cells often return back to normal on their own within six months, especially with positive lifestyle changes. If the cells do not return to normal, a physician may refer the patient for further follow up by a gynecologist or to the Colposcopy Clinic at the Grace Women's Health Centre at Foothills Medical Centre. A colposcopy is a procedure in which the cervix is examined closely with a powerful microscope. A tiny tissue sample or biopsy is taken from the cervix for further examination to determine if specific treatment is required.

While abnormal results do not necessarily indicate cancer is present, regular Pap tests are a woman's best defense against cervical cancer.

Q: I was out for lunch with a friend when I noticed the young waiter serving our food had marks on his face. He told me he had just got over chicken pox. I don't remember ever having chickenpox. Will I get chickenpox? How serious would it be?

A: Chickenpox or Varicella is a very common illness. It usually occurs in childhood,

If you are concerned about a health issue and would like to speak to a health professional, you can contact your family physician or speak to a registered nurse 24 hours a day, seven days a week by calling Health Link.

Calgary: (403) 943-5465
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although it is becoming less common with the Varicella vaccine. Children who get chickenpox usually tolerate it well, despite the itchy rash. It can be a more serious illness in certain situations though. Adults, especially people with immune system problems or pregnant women, who are in contact with chickenpox should contact their physician for further advice if they think that they have never had it. In Canada, approximately 95 per cent of all adults have had chickenpox even if they can't remember being sick with it. Once you have had chickenpox or the vaccine you have lifelong immunity and so you will not get sick from an exposure. A blood test can be ordered to see if your body is immune to chickenpox.

Those at serious risk and who do not have immunity to chickenpox can be given an injection with Varicella antibodies called VZIG to ward off the chances of getting chickenpox. This must be given within 96 hours to be effective.

If the illness does develop in someone who may have a more serious disease, there is an anti-viral medication that can be given to shorten the length of the illness. This is more effective if it is given as soon as the symtoms of chickenpox develop. The incubation period after you have been exposed until symptoms develop is usually 14 to16 days, but may be between 10 and 21 days. Chickenpox is spread through the air when someone with the disease coughs or sneezes. It can also be spread by touching the fluid from the blister, but this is less common. The spread occurs in the first few days before the rash comes out and continues for the next few days. You are not at risk of getting chicken pox if you are exposed to someone whose rash has gone, but still has visible marks.

Do you have a question you would like to ask a nurse? Please e-mail your request to askanurse@calgaryhealthregion.ca or write to: Ask a Nurse, 10101 Southport Road, S.W., Calgary, AB., T2W 3N2.

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The next frontier in face cream: products that contain human growth factors (hormones involved in healing skin). In a preliminary study of 15 subjects, San Diego dermatologist Richard Fitzpatrick examined the effects of a topical cream that has as its key ingredient Nouricel M.D., a combination of human growth factors engineered from human foreskin. He discovered that the cream regenerated collagen five times faster than Retin A (without irritation or redness). Biopsiesshowed a 37 percent increase in collagen and a 25 percent increase in skin thickness, says Fitzpatrick, who expects a larger double blind study to bear out these results. The active ingredients will go into a product called NouriCel M.D. The Cream will be produced by SkinMedica.
-Allure, May 2001

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Ask a Pharmacist with Curtis Ross





Dry eyes can make you cry

Here are some tips for dealing with this irritating problem

The following information is provided courtesy of your Calgary Co-op pharmacists. Always check with your pharmacist if you have any questions or concerns regarding your medication and when choosing over-the-counter products.

Q: What is dry eye?

A: Dry eye is a condition that can cause you to feel like you have sandy or scratchy eyes. It may cause you to feel burning in the eyes, have blurred vision, redness, pain or difficulty opening and closing your eyelids, or be more sensitive to light. Unlike some other eye conditions, symptoms of dry eye can worsen over the course of the day.

Q: What causes dry eye?

A: A number of factors can lead to dry eye:

- The environment – such things as a dry climate, smoke and pollution
- Medications such as antihistamines (chlorpheniramine), beta-blockers (propranolol), diuretics (hydrochlorothiazide), isotretinoin, oral contraceptives and tricyclic antidepressants (amitriptyline)
- Contact lenses that are worn too long and not cleaned properly
- Forgetting to blink when focusing on an activity such as working at a computer
- Some medical conditions such as chronic blepharitis, rheumatoid arthritis, Sjogren's syndrome, menopause or androgen deficiency
- Vitamin A deficiency

Q: Why do some people have increased tearing when they have dry eyes?

A: Although most people state that their eyes feel dry, some may have more tears than usual. This is one of the body's natural responses to dry eye, but it rarely helps the eyes feel better.

Q: What can you do to treat dry eye before seeing a doctor?

A: Avoid smoking and smoky areas; use a humidifier to add moisture to the air; place a cool, moist washcloth over closed eyelids; wear ski or swim goggles to increase humidity in the eye area.

Q: What are the over-the-counter treatments available to treat dry eye?

A: Several artificial tear solutions are available. These coat the eye to keep them moist, prevent irritation and slow down the turnover of tears. Artificial tear solutions are:

- One per cent carboxymethylcellulose, which improves severe symptoms. This product is quite thick so will often cause vision to be blurry when first applied. For this reason, it is best to use it at bedtime
- 1.4 per cent polyvinyl alcohol forms an artificial layer like mucin and is commonly used to treat dry eyes due to mucin deficiency
- 0.1 to 0.5 per cent sodium hyaluronate
- Petrolatum eye ointments that stay in the eye longer than drops. These can cause blurry vision so should only be used at bedtime

Numerous products are available over the counter. You may have to try more than one to find out which one works best for you. Try a product for one to two weeks to see how well it improves your comfort level and relieves symptoms. Some of the common artificial tear medications are: Artificial Tear, Celluvisc, Genteal, Hypotears, Isopto Tears, Liquifilm Tears/Forte, Murine eye care, Refresh/Refresh Plus/Refresh Tears, Tears Naturale/Tears Naturale Free/Tears Naturale II and Visine True Tears.

Q: What should contact lens wearers do to prevent dry eye?

A: Proper lens cleaning is the most important step in preventing dry eye because it helps to remove deposits that occur during their daily wear. Use contact lens products recommended by eye care professionals or pharmacists only. Rewetting solutions can be used to relieve dryness due to prolonged contact lens wear. It should, however, be limited to one drop every four to five hours because frequent use can lead to redness and irritation. Use only artificial tear solutions (such as OptiFree Rewetting Drops) that are made for contact lenses because some preservatives can build up on lenses.

Q: When is a physician referral needed?

A: Any eye problem, including dry eye, can be a threat to your vision. Contact your doctor if you have any of the following symptoms:

- Eyes have been irritated and dry for more than 48 hours - particularly if it affects a child or senior and he or she is taking many medications
- Eyes are more red than usual or you have pain, increased light sensitivity, altered vision or excessive discharge from the eyes
- Eye trauma
- Headache
- Abnormal pupils

-- Aileen Ho, Pharmacist, Calgary Co-operative Association Ltd.

Q: What is diarrhea?

A: Diarrhea is defined as loose watery stools that occur with increased frequency. Diarrhea can be classified as short term (acute) if the onset is sudden and it lasts for less then two weeks (generally one to three days) or long term (chronic) if it lasts more than four weeks.

Q: What are some common causes of diarrhea?

A: Spicy or fatty foods, food poisoning, lactose intolerance or certain bacteria (picked up while traveling) are all common causes of diarrhea. Certain drugs, particularly antibiotics, can also cause diarrhea.

Q: What are some complications of diarrhea?

A: Fluid and electrolyte (potassium and sodium) imbalance is the most common complication of diarrhea. This can lead to dehydration, which means the body lacks enough fluid to function properly. Dehydration is particularly troublesome in infants, young children, pregnant women, the elderly and those suffering from chronic illness such as diabetes.

Q: At what point is it necessary to seek medical advice?

A: Any child suffering from diarrhea for more than 24 hours or has a fever of 38 C should be seen by a physician. Medical advice should also be sought if there are signs of dehydration such as: low urine output or no tears; skin has lost its usual elastic quality; there is tenderness in the stomach or a sunken soft spot is present on the head of an infant. An adult who is suffering from diarrhea for more than 48 hours (with or without treatment) or has a fever of 38.8 C should seek medical attention. Those with severe stomach cramping, blood or mucous in the stool, pregnant women, AIDS or cancer patients and those over 60 with multiple medical conditions should also see a doctor.

Q: What are some non-drug measures to treat diarrhea?

A: Replacing lost fluids and electrolytes to prevent dehydration is very important in the treatment of diarrhea. Oral re-hydration solutions such as Pedialyte (for children), Gastrolyte and Gatorade, are useful as they contain appropriate amounts of electrolytes. Pedialyte is available in two forms: juice (which should not be diluted) and freezie pops. Children aged two to 10 years old should receive 50 ml of solution per kilogram of body weight over the first four to six hours. The usual daily dose is 100 to 150 ml/kg. A child weighing over 14 kg can take up to two litres per day while diarrhea continues. Infants and children should receive small, frequent and slowly administered amounts of Pedialyte.

A homemade oral re-hydration solution consisting of 1/2 tsp salt, one tsp baking soda, eight tsp sugar, eight oz. orange juice and one litre of water can also be prepared. Adults can take 120-150 ml every hour while children can take up to 250 ml for each loose stool. Generally, only clear fluids (avoid milk and milk products) should be administered over the first 24-hour period. A bland diet of bananas, rice, applesauce and toast (BRAT) is a good idea on the second day. Regular diet may resume in two to three days.

Q: What over-the-counter medications are available to treat diarrhea?

A: Loperamide (Imodium) is available to treat short-term diarrhea in the absence of fever and bloody stools. The recommended dose is four mg right away, then two mg after each loose bowel movement (max of 16 mg/ day). It should not be taken for longer than two days and should only be given to children less than 12 years of age on the advice of a doctor. The most common side effects are dizziness, constipation and dry mouth. Attapulgite (Kaopectate, Fowler's) is a product that helps to improve the formation of stool. It can be used in children over six years of age. It should not be used if stomach pain, nausea or vomiting is present. Bismuth Subsalicylate (Pepto-Bismol) is an alternative product available to treat traveller's diarrhea because of its ability to kill certain bacteria. This product should be avoided by anyone who has an aspirin allergy, in children and adults with flu symptoms (due to the risk of Reye's syndrome). Common side effects with this medication include: black stools and tongue, ringing in the ears and confusion. Always consult with your pharmacist or medical professional before using any of these products to determine if they are appropriate.

Q: What should I do if I'm pregnant?

A: Pregnant women should seek medical attention if they have diarrhea, particularly if it is accompanied by fever or bloody stools. Attapulgite (Kaopectate, Fowler's) is safe in pregnancy. However, Bismuth Subsalicylate (Pepto-Bismol) should be avoided. The recommendations for re-hydration apply to pregnant women.

-- Sonal Shah, Pharmacist, Calgary Co-operative Association Ltd.

Q: I think my child has Pink Eye, but I am not sure. What are the signs of Pink Eye?

A: Pink Eye is very common. General signs are redness in the white of the eye, watery eye, discharge (a thick and yellow-whitish colour) that causes the eyelids to stick together and itchiness or a feeling of sand in the eye.

Q: Is Pink Eye contagious?

A: Yes, Pink Eye is very contagious. It can spread by hand to eye contact. Make sure the infected person uses a separate face cloth and towel. Wash hands often with soap and water and avoid touching the eyes as little as possible. Other family members should watch for any signs of redness or itching in their eyes.

Q: If I have Pink Eye, do I need to see a doctor?

A: It is usually best to consult a doctor or speak with a pharmacist to confirm the case. You may try an over-the-counter product such as Polysporin. Avoid touching the tip of the bottle to the eye or lashes. If the eye does not clear after two days, you should see your physician. As well, see a physician if the following symptoms occur: severe sensitivity to light; pain; vision is affected; an irritating sensation in the eye (feeling of sand or grit).

Q: How long should treatment of Pink Eye last?

A: Treatment normally lasts for five days and continues for two days after the infection has cleared up.

Q: Can I still wear my contact lenses?

A: Remove contact lenses immediately – they should not be worn again until the infection is cleared up. Once the infection is clear, clean the lenses properly before reinserting. If the lenses are disposable, use new lenses and discard the old ones.

-- Denise Dillman, Pharmacist, Calgary Co-operative Association Ltd., with assistance from Cheryl Callicutt, Co-op Pharmacy Technician

Do you have a question for our pharmacists? If so, please email your question to "askapharmacist@calgaryhealthregion.ca" or write to "Ask A Pharmacist," 10101 Southport Road S.W. Calgary, AB. T2W 3N2. Article submissions coordinated for publication by Curtis Ross, Pharmacy Manager, Calgary Co-operative Association Ltd.

Staying Healthy with Rob Walker





Photo by Paul Rotzinger

Play it safe

Preparation and proper equipment are key to preventing sports injuries

Soccer season is a good time for parents to remember how to keep the young players safe from injury while they're out there scoring goals.

Every year, one in five adolescents playing soccer in Alberta seek medical help for an injury, according to Dr. Carolyn Emery, assistant professor at the Sport Medicine Centre, Faculty of Kinesiology, University of Calgary. She is currently researching injuries in 20 adolescent soccer teams in Calgary for a Canadian research project she is co-ordinating.

Soccer is one of the top three injury producing sports for girls and among the top four for boys, says Dr. Emery. Worse are gymnastics and basketball for girls and football, hockey and basketball (in that order) for boys.

While the results of the research still have to come in, Dr. Emery recommends parents prevent injuries by encouraging their children to warm up before playing and, most importantly, prepare with pre-season strength, endurance and sport specific activities. Balance exercises are especially valuable, since lack of balance is a proven risk factor. She says there is some evidence for increased risk on artificial turf. Research is ongoing to provide an optimal shoe for playing on turf and better artificial turf itself. Most important, according to the U.S. Centers for Disease Control and Prevention, is using the right soccer equipment. Players should wear shin guards during practice and games, as well as shoes with molded cleats or ribbed soles.

The U.S. National Youth Sports Safety Foundation emphasizes that coaches should have first-aid kits and ice at every game and practice to treat injuries. Coaches should also have a written emergency plan, the foundation adds.

Remember this: forgetting isn't a simple process

Do you recall the last time you tried to forget something unpleasant? Maybe an embarrassing or traumatic moment? New research suggests when you take on the task of forgetting, the process is similar to the mental effort required to stop your arm or leg moving.

"Maybe a lot of forgetting is a bit more active than we are accustomed to believe," says University of Oregon neuroscientist Michael Anderson, co-author of a new study released recently in the journal Science. "We know much more about how the brain remembers information than how it forgets," says Michael Platt, an assistant professor of neurobiology at Duke University.

In the new study, Anderson and colleagues used magnetic resonance imaging (MRI) technology to examine the brains of 24 people. The people, of all ages, were given pairs of words and told to remember some of the matched pairs but forget others.

"We found that trying to shut out memory was in some ways more demanding than remembering," Anderson says. "Areas of the brain were significantly more activated when they tried to stop themselves from thinking of an unwanted memory."

Some memories, of course, can never be erased, and stay with people for a lifetime. But forgetting is an integral part of memory – and for good reason, Platt says.

"Consider what would happen if you remembered everything," he adds. "Remembering everything might be nearly as disabling as total amnesia."

"I think Anderson's work is very clever," says University of Calgary psychology professor Dr. Glen Bodner. "Although for ethical reasons the kinds of memories he provides people with, and then asks them to forget, are much more benign than the kinds of memories typically associated with repression," Bodner adds. "So I'm not sure that the goal of this research would ever be to

train people to repress traumatic memories."

So it may be a while before researchers find new ways to help people get rid of troubling memories. If it ever happens it'll be one breakthrough not easily forgotten.

A good source of health information

Thinking of making a commitment to healthy living? Looking for ways to prevent disease?

For reliable and trustworthy Canadian health information, look no further than the Canadian Health Network (CHN) at www.canadian-health-network.ca/. According to Julie Douglas, librarian for the Network's Regional Operating Centre, the organization is a national, non-profit, bilingual health information website supporting all Canadians in making informed choices about their health.

The website contains a wealth of practical and credible e-resources on topics such as women's health, nutrition, physical activity, injury prevention and so much more. Try out the interactive/multimedia sites, such as the calcium calculator, the meal planner, the heart health quiz, and the healthy body quiz.

From CHN's virtual collection, you can access over 13,000 health resources. These resources are provided by over 700 non-profit organizations from across Canada; authorities in their health topic area, such as the Calgary Health Region, the Dietitians of Canada, and the Canadian Diabetes Association, to name only a few.

Here's a sample of resources you can find on the Canadian Health Network Web site:

- www.calgaryhealthregion.ca/hlthconn/hlthconn.htm: Provides fact sheets on a broad range of health issues for consumers. Includes a directory of Calgary health and physician services, Calgary health library contact information, and links to online medical dictionaries, a health handbook, and a health knowledge base.
- www.centre4activeliving.ca/Education/Older Adults/Tips.html: Lists the benefits of physical activity for older adults and outlines its components, such as cardiovascular endurance, muscular strength and endurance, joint flexibility and balance and coordination. Lists 10 tips each for becoming and staying physically active.
- www.asthma.ca/adults/about/: Describes what asthma is, and gives background on self diagnosis, triggers, treatment, medications, and community resources.

Rob Walker, owner of the Yoga Studio South, writes about health issues.

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Public Health with Dr. Brent Friesen



Managing the risk

Proposed sour gas project highlights health issues involved in approving development projects

One of life's most difficult challenges is learning to strike the right balance in managing risks to our health.

Whether we're driving a car, walking in a wooded area filled with mosquitoes or taking a position on the location of an industrial development, there are always potential risks to consider. How we react to these risks can depend on a variety of factors, including our familiarity with the threat, our ability to control it or who benefits from the potential hazard.

As Medical Officer of Health for the Calgary Health Region, I'm often called upon to identify potential health risks. Whether it's the threat from West Nile virus or mad cow disease, part of my job is to put the issue in context and provide the information that can help individuals manage the potential health risks.

A recent proposal by a company to drill new sour gas wells just south and east of Calgary is a case in point. Under the proposal, the company, which has existing sour gas wells and pipelines in the area, wants approval to drill up to six new wells to speed up the recovery of the sour gas reserves in the area. Sour gas is natural gas containing hydrogen sulphide (H2S), a colourless flammable substance that is poisonous in relatively low concentrations.

Benefits from the project include the royalties to the provincial government, local taxes on the production facilities and the jobs that would be associated with the activity. The company also hopes to increase its profitability and benefit its shareholders. Other people that would benefit are the users of the gas that is produced.

But there are also risks with the proposal, primarily from the possibility of an unintentional release of sour gas from the proposed wells, either during drilling or servicing. The projected flow of H2S from these wells is much greater than the existing wells so the area potentially affected is much larger. Thousands rather than hundreds of people could be affected, resulting in additional challenges in developing an emergency response plan to address the potential hazards that could result. The people living immediately next to the wells would also be subjected to the noise and additional traffic that drilling these wells would create.

The Region's approach to this particular sour gas well application is the same as our approach to others that we are asked to comment on.

The Region's approach to this particular sour gas well application is the same as our approach to others that we are asked to comment on. We determine whether the applicant has identified all the potential hazards that could result if a release of sour gas occurred. We also review the company's emergency response plan to assess whether it will reasonably manage potential hazards or if its implementation will create any new problems. In many cases, the Region is able to indicate that it has no concerns with the application or that the applicant has made the necessary changes to address issues that have been raised.

In the case of the proposed southeast wells, the Region has recommended that the Alberta Energy Utility board deny the application because of concerns that the proposed plan does not adequately address the potential hazards that could result. The major concern is that the company has requested that it only be responsible for an area within a four kilometre radius of the well, even though various analyses suggest the area affected could encompass an area with a radius of seven to 15 kilometres from the proposed wells.

The Calgary Health Region believes it is important that people living in an area where significant health effects could occur need to be informed in advance of potential risks as well as the measures that they may need to take to protect themselves.

Another concern is that the applicant is relying on ignition (burning) of any release to reduce the health threat from H2S. While ignition eliminates the H2S threat, it creates a new threat from SO2, which irritates the respiratory tract. Ignition also results in other combustion products, including potential carcinogens.

It is our assessment that having a major gas well out of control and burning for 40 to 50 days creates a significant health threat, one that must be countered with appropriate response planning. Such measures could include using an existing well as a relief well. This could reduce to 10 or 15 days the time it would take to cap the well, should a problem occur.

Ultimately, the decision on whether to approve the application or amend it will be made by the members of the Alberta Energy Utility Board, who are responsible for weighing the potential risks against the economic benefits. Their challenge is to find that appropriate balance.

Dr Brent Friesen is Medical Officer of Health for the Calgary Health Region.

More detailed information on sour gas wells and the pending proposal can be found at the AEUB website: www.eub.gov.ab.ca



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